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ORIGINAL DEPARTMENT.

COMMUNICATIONS.

DIGESTION.

BY HORATIO R. BIGELOW, M.D.,

Of Washington, D. C.

A very excellent practical article upon this subject, from the facile pen of Dr. J. Milner Fothergill, recently made its appearance in the *Practitioner*. It is not exhaustive physiologically, for it evidently does not aim to draw conclusions from actual experimentation. It is rather the dictum of a leading clinician who is entitled to speak *ex cathedra*. Whatever Dr. Fothergill writes will command attention, for his opinions are free from pedantry and backed up by clinical facts. The functions of the mixed saliva (parotid, submaxillary, sublingual, and that from the glands of the mouth, tongue and pharynx), are not yet thoroughly understood; but enough has been mentioned to justify the assertion that it has a certain action upon hydrated and dehydrated starch. The first fluid, as a factor in digestion, is the saliva. This is not simply a mechanical or lubricating agent, but a genuine digestive. There is a marked difference in the results of the experiments made by Bernard, Leuchs, and others, upon dogs and upon human beings. In the former amylaceous principles are transformed into sugar by the intestinal secretions alone. In man the mixed saliva "changes starch into sugar with great rapidity" (Flint). No logical inference can be predicated upon experiments made upon lower animals. Uncooked starch is more slowly affected by saliva than the granule cracked by cooking, yet *it is* slowly converted into sugar. To quote from Flint:—

"It is unnecessary, in this connection, to recite the numerous experiments on the influence of the saliva of the inferior animals on starch; but it may be stated as an established and generally accepted fact, that the mixed saliva and the secretion of the different salivary glands in the human subject, invariably transformed cooked starch into sugar with great rapidity, in the mouth, and also, at the proper temperature, out of the body. It has also been shown by Mialhe, that the starch, although it is rapidly converted into sugar in this process, is first transformed into dextrine. This point being settled, there arises the important question whether the action of the saliva be important in the digestion of starch, or whether this transformation be merely accidental; for it has been shown that other fluids, among which may be mentioned the serum of the blood, the fluid found in cysts, and mucus, have the same property, although none, except the intestinal juices, are nearly so efficient as the saliva; and, again, the quantity of starch contained in the food is so great that it would require, apparently, a longer contact with the saliva than usually takes place in the mouth, to make this action very efficient. These considerations make it necessary to follow the amylaceous principles of food into the stomach, and to ascertain, if possible, whether the transformation into sugar be continued in this organ. * * * * The question of the continuance, in the stomach, of the digestion of starch by the saliva is settled by the following observation by Grünewaldt and Schröder, in 1853, in a woman with a gastric fistula:—

"After a meal of raw starch, no sugar was found in the contents of the stomach, the acid juice was drawn by the fistula, and was mixed with paste; the transformation into sugar commenced immediately. As Bidder has observed, the transforming property of the saliva persists, even in the presence of free acids. A few ounces of starch swelled with boiling water were introduced into the stomach, fasting, by the fistula; immediately after, a portion of the starch was expelled again: already it contained sugar. A quarter of an hour after, a great deal of sugar was found in the stomach, and the paste had become entirely fluid.

"There can be no doubt that the saliva, in addition to its important mechanical functions, transforms a considerable portion of the cooked starch, which is the common form in which this principle is taken by the human subject, into sugar; but it is by no means the only fluid engaged in its digestion. * * *."

In the saliva we have the first ferment, the first requisite of digestion and assimilation. Recognizing this truism, we are more intelligently prepared to argue against rapid eating and insufficient mastication. The food ought to be properly triturated by the teeth. During this process it becomes mixed with saliva and passes into the stomach in a partly digested condition. This is an essential prerequisite of healthy digestion.

It seems to me that many cases that come to the Doctor complaining of gastric disturbances, flatulence, pain, and a sense of heaviness after eating, and for which bitter tonics, sulphate of soda, carminatives, etc., are prescribed, would be more satisfactorily combated by enjoining less haste in eating and a greater care in masticating the food. Thus prepared by the ferment of the mixed saliva, and partially digested, as to its starch, the food encounters the gastric juices of the stomach. Of this function, Fothergill writes:

"Under the influence of the gastric juice an insoluble albuminoid, a 'proteid' is converted into the soluble 'peptone.' As such it passes into the blood, where it at once passes back to the proteid form. This digestion into a 'peptone' is achieved by the addition of a molecule of water, and as soon as the soluble peptone has reached the blood it is dehydrated back to a proteid. This is the special function of the stomach, viz., to digest albuminoids * * * * *. Digestion is really solution. The gastric juice is the solvent of the albuminoid elements of our food." Now, the chief ferment of the gastric juice, according to Bidder and Schmidt, is pepsin. It is easily understood why physicians are given to prescribing pepsin, oftentimes indiscriminately, in almost all forms of gastric disturbance, and it is quite as easily understood why the results of such administration are generally unsatisfactory. Pepsin requires great care in its preparation, and is an expensive article of manufacture, if properly made. If the temperature be allowed to exceed a certain known limit, the whole mass becomes inert, and is useless as a medicine. To throw it aside would be to sacrifice a large amount of time and money, and hence, it is thrown upon the market, all insufficient though it be to accomplish any result. "A solution of pepsin in water, when acidulated with lactic, phosphoric, or hydrochloric acids, has the power of causing the solution of fibrin or albumen when kept at the temperature of the body; and the amount of fibrin or albumen dissolved by a given weight of the pepsin may be taken as an indication of the value of the medicine. A temperature above 130° Fah. injures or destroys the solvent powers of pepsin" (Garrod).

Pepsin is largely prescribed in atonic dyspepsia, but it is difficult to understand for what reason. Out of the body fifteen grains of Boudault's best pepsin will only dissolve sixty grains of dried fibrin. Combined with hydrochloric acid and lime its power is greatly increased. The digestion of starch is not arrested in the stomach, as the principles are mixed with the saliva, but the pancreatic fluid and the intestinal juices are the chief factors in its ultimate disintegration. Bernard very properly places the pancreatic juice at the head of the list of digestive fluids that act upon starch. Flint says: "To sum up the whole process of the digestion of starch, it may be stated, in general terms, that this principle, when hydrated, which is the usual condition in which it is taken into the stomach of the human subject, is slightly acted upon by the saliva, both in the mouth and after it has passed into the stomach. When it is taken raw, it is hydrated in the stomach and usually undergoes no transformation into sugar until it has passed into the small intestine; and when it passes out at the pylorus, mainly by the action of the pancreatic juice but with the assistance of the intestinal juice, it is transformed into glucose and in this form is absorbed." The bile acting as a general scavenger, but not as a specific digestive, often needs a little attention, and is acted upon directly or by contiguity of structure.

In the treatment of any form of dyspepsia we must consider, 1st. The condition of the teeth;

2d. The time occupied at meals; 3d. The condition of the stomach; 4th. The condition of the bowels; 5th. The nature of the stools; 6th. The symptoms; 7th. The age, habits and inherited tendencies of the patient. If the natural diastase be deficient in quantity, we add the artificial diastase, "maltine." The ferment or "diastase" of the mixed saliva is identical with the ferment of malted barley, the starch of the barley being hydrated into malt (Fothergill). The best results from the use of this artificial diastase "maltine" are gained by taking it *during* the meal, mixed with porridge, milk, or what I think better, good sour wine. It thus acts upon the starch before reaching the stomach, and increases the power of the actual diastase in the saliva. Alcohol is very useful in many cases, and absolutely demanded in others. Maltine being a sweet, syrupy compound, mixes well with sherry, and taken during a meal is pretty sure to aid digestion. Fothergill points out the mistake of giving it after the food has been taken and reached the acid secretions of the stomach, because both the real and artificial diastase are inert in the presence of an acid, and their power is lost. Where the tissue waste is great, and a constructive is called for, this artificial diastase may advantageously be combined with the peptones, and we thus bring to bear a digestive and a constructive.

Of pancreatic indigestion we know but little. Fats are taken as food, but pass away undigested. Neither the saliva nor the gastric juice have any hand in this transformation of fat. Having passed the peptones and made alkaline by the bile, the fats are saponified, and the starch not yet transformed into sugar by saliva is also acted upon again. The albuminoids, not digested by the gastric pepsin, are digested by the pancreatic trypsin, and "the fats are emulsionized so that they can be taken up by the lacteals in the villi of the intestines." The pancreatic secretion contains four principles:—

1. A ferment which changes starch into sugar.
2. Trypsin, which digests albuminoids in an alkaline medium.
3. A substance which will curdle milk.
4. Another substance which will emulsionize fats. (Fothergill).

It is this pancreatic dyspepsia especially that we have to fight in consumption. It is this imperfect assimilation of fat that "impairs interstitial digestion" in the body, or as Fothergill says in his article: "This impairment gives us those modifications of nutrition which are summed up in the word '*stroma*.' We know that if we can manage to enable a patient with pulmonary phthisis to digest and assimilate cod-liver oil, tissue nutrition becomes so altered that the development of tubercle is usually arrested. That is, we have once more given to growing tissue that fat which is essential to healthy formations. Call growths of tubercle by what name each man pleases, Virchow's broad view that tubercle is a growth of connective tissue corpuscles degraded in quality, while produced in great quantity, is the one to hold, in order to best grasp the subject from its therapeutic aspect. What we have to attempt to do, is to give to the tissues the fat without which they are not healthy." There's the rub. The ideal prescription for phthisis would be one which should be a digestive, a formative of fat, and a nutrient. Sulphuric ether is a known stimulant to the pancreas, and preparations of cod-liver oil and ether have been tried and tried again. It is a fact that may pass without saying, that cod-liver oil in any form is not generally well tolerated by consumptives. It impairs the last lingering of appetite, and is disgusting, nauseating and a powerful factor of evil in many instances. Its presence as a foreign body in the stomach excites the flow of gastric juice. It passes through the pylorus undigested and comes to the pancreas. The pancreatic juices are sluggish, the oil does not act as an excitant, and it passes out of the body unassimilated. We need something which will excite to action the pancreatic juices; so that saponification may ensue, and tissue waste be prevented. The nearest approach to this that we have made, is the addition to an artificial diastase of a natural pancreatic fluid, or diastase with peptones and pancreatine. In this way we supply an artificial ferment, a gastric irritant, a pancreatic excitant, a fat former and a digestive. In no other way can we improve "interstitial digestion." The only way to repair a broken-down lung is to make it partake of the general nutrition of the body. This can be best done, and only surely done, by attention to digestion.

THE HYGIENE OF THE EYE. AN ADDRESS TO PHYSICIANS.

BY CHARLES A. OLIVER, M.D.,
Of Philadelphia.

(Read before the Northern Medical Association, Oct. 28th, 1881.)

We, as physicians, in our endeavors for the well being of others, are apt to disregard our own demands, and totally neglect ourselves, even where there is cognizance of some defect or want in our system, and this is nowhere more

vividly shown than in the organ of vision. For this reason, which I may safely claim as sufficient, I feel justified in bringing before you this address, in hope that the hints here set forth may prove of value and service.

The conditions rendering an eye incapable of its proper functions in an easy unconscious manner, may be conveniently divided into two kinds:—

1st. All those which are extraneous or separated from the organism.

2d. Those dependent upon the system, especially the eye itself.

Before I shall give you these causes, it will be necessary, for the understanding of their proper signification, to explain the meaning of the terms accommodation and convergence. (This was chiefly done by the aid of a series of diagrams and sketches.)

Among the first, improper l'ght is paramount. How many of us endeavor to read by insufficient illumination, either natural or artificial, causing an unconscious approach of the object to the eye, in the compensation of enlargement for indistinctness, thus producing a decided strain upon the ciliary and extra-ocular muscles in their efforts to maintain proper accommodation and convergence. This undue muscular effort means fatigue, and yet we neglect rest, continuing the strain until the muscles give out. I advise you all to give your eyes proper light, plenty of it; the diffuse, steady, white daylight.

Motion, especially when irregular and unrhythmical, is a second great factor. The overworked physician trying to steal a few disconnected phrases from a current journal, as his carriage jolts along; what is he doing? Exercising his ocular muscles in a variety of anatomical gymnastics; relaxing and contracting them in exact but unknown proportions, to keep the ever jumping word fixed upon his macula lutea—and then wonders, with a possible sage conclusion of general relaxation, last night's work—why his eyes feel so strained. Take the same individual and ask him to walk and balance himself on a slack rope for a few minutes, and he would most certainly refuse, and yet notice the parallelism. Your time may be valuable, but I venture to say, that the knowledge you acquire during traveling will barely compensate for the consequent eye-strain.

Improper positions may now be considered. To hold a book in such a position as to demand continued action of a comparatively unused extra-ocular muscle, means strain of that muscle. Take the oft attempted plan of reading while lying down or stooping. You can easily understand that in either of these cases muscular action will soon become unsteady. We should so hold our book that the muscles will be properly and even'y balanced. The best position being, that of the light coming from the left and behind; hence, always be careful to place your desk or writing table so that the light may fall over the left shoulder.

Do not hold your work too near your eyes, as here the accommodation and convergence will be overtaxed in the same manner as explained in the paragraph on insufficient illumination.

Never buy cheap reading matter, as it always means bad paper, imperfect and small sized type, improperly ruled and gauged. Choose a book with good paper, holding large, well printed, widely separated black words; and see that every page, if of any considerable width, is double columned. Nothing can be gained in the purchase of badly gotten up books.

Much has been said of the comparative values of the different kinds of artificial light; and there have been many attempts to substitute a light as nearly simulating daylight as possible: the requirements being steadiness, whiteness and brilliancy. It is generally accepted that the improved form of Argand lamp, using a pure refined oil through a properly trimmed wick; allowing the light to pass through a slightly blued transparent chimney, and then reflected on the work by a bluish or white shade, is doubtless the best we now possess.* How electricity can be so managed and reduced in its illuminating power, as to be applicable to general use, remains for the future to tell, although Dr. Leon Foucault, reports that recent investigations have shown that its use is productive of conjunctivitis, keratitis and retinal anæsthesia comparable to that produced by insolation.

In the second division of causes, among the most important, we may enumerate, first, the use of the eyes for near work, when the vital energies are not at their best. I advise you all to read or write during the morning hours. If you must read at night, never persist when you feel sleepy or overcome with fatigue, as the ciliary muscle and the extra ocular muscles will have a disposition to relax, and hence, proper accommodation and convergence will not be maintained—thus producing decided exertion and consequent strain.

It is a good rule to frequently interrupt all

* It is a good plan to have the upper half of the chimney rendered translucent by grinding, so that the movable tips of the flame may be hidden.

near work, so that we may give the muscular apparatus rest—remembering that the ocular muscles work just as hard in a two hours' reading, as do the leg muscles in a two hours' walking.

Every man, from age, loses, more or less, his power of accommodation, that is, loses tone of ciliary muscle, accompanied by senile changes in his refractive apparatus—merely a local expression of a general want of tonicity—true decay. This is termed presbyopia or old sight. Then it is that he must compensate for this loss by artificial change of refraction—by the use of artificial lenses—spectacles. Do not for a moment think that anything can be gained by the postponement of their use. When, through age, you find yourself unable to read as you were wont, fit yourself with a pair of spectacles; and by so doing, there is no reason why your eyes shall not be capable of comfortably doing much near work.

A matter which may seem trivial, is ventilation during the use of artificial light; but when we consider the double combustion of oxygen, it really becomes a matter of great importance. Dr. Carter, in his little work on "Eyesight, Good and Bad," says, he has found that the evil effects of direct radiation can be easily prevented by the interposition of a transparent screen, containing a substance nearly impervious to heat rays. He had a large, flat glass cell filled with a saturated solution of alum in water; and found, by actual experiment, that it intercepted 26° of heat, without becoming sufficiently warm itself to radiate in any appreciable manner. This suggestion is of great practical importance and well worthy of trial.

I shall now speak of the so called injurious effects of the microscope. In its employment, we must be guided by several important rules:—

1st. Never prolong its use.

2d. Frequently interrupt work.

3d. Alternate the use of the eyes.

4th. Avoid a stooping position of the head.

5th. Choose good, steady illumination, either natural or artificial.

If these rules are faithfully carried out, it cannot cause injury.

Remember that no eye, however good its condition, can be safely used with impunity. We often hear of a pair of eyes capable of almost incalculable strain. Carefully follow that pair of eyes through their life's journey, and you will most certainly find a time when they will break down.

It is my belief that much better scientific work would be done, more comfort experienced, and many absolute dangers avoided, if our eyes were properly and regularly worked; carefully exercised and frequently rested; while taking due care not to allow the progression of what appear trivial conditions.

NOTE.—Extensive use has been made of the works of Harlan, Carter and Mitchell.

1507 *Locust street.*

HOSPITAL REPORTS.

UNIVERSITY OF THE CITY OF NEW YORK.

CLINIC OF DISEASES OF THE MIND AND NERVOUS SYSTEM.

BY PROF. WM. A. HAMMOND, M.D.

Reported by H. H. SEELYE.

Hypnotism.

CASE 5.—The clinic was occupied with the exhibition, by Prof. Hammond, of several cases of so-called hypnotism.

Prof. Hammond began by stating that the students had already seen several subjects put into the hypnotic state; referring to a number of women whom he had previously exhibited at the clinic. So without stopping to describe the condition, he went on to give a brief history of hypnotism, up to the present time. The subject, he said, was first brought to the notice of the world by Mesmer, seventy or eighty or more years ago. He published an account of his discovery, and of its medicinal value, in a book called "Animal Magnetism." The subject did not especially interest the profession at that time, and so he and it fell gradually into disrepute. He started with a wrong theory, and hence was false in his deductions. He claimed that there was an influence which emanated from him, which he called "animal magnetism," and this overpowered the nervous energy of the patient, who then came entirely under his control.

Mr. Braid, of Manchester, Eng., was the first to investigate this subject scientifically. He proposed for this state the name of "hypnotism." The patient was brought into the condition in practically the same way as is now generally done. He simply attracted their attention, and kept it fixed on some bright object, held near the eyes, and they then soon became subject to his will. But he too was classed as a quack, and not listened to by the profession.

The subject was then taken up by a class of men who called themselves "electro-biologists," and who went about the country giving exhibitions. After hypnotizing the subject, they would suggest to him what emotions he was to express, by placing the fingers on the part that was to be influenced. So uniting their knowledge of phrenology to this condition, they would suggest acts expressing ambition, anger, love, and so forth, by touching that portion of the skull which was supposed to be over the seat of these emotions in the brain. While these people were exhibiting in England, they attracted the attention of Dr. Carpenter and others, who carefuly reviewed the

whole subject, and the opinions arrived at by them are those which have generally been held up to the present time.

The history being completed, Prof. Hammond then continued his remarks, to the following effect: He wished to impress upon us, to-day, the fact that nothing goes out from him as an emanation. The success of the experiment rests wholly upon the one subjected to it, and not on the one who subjects him. Any one else could bring on the condition as well as he. Not all people are sensible to this influence, but on the average only about two men in ten, or four women in ten. We can put the subject into the hypnotic condition by anything that will attract the attention through any one of the senses. Thus he can be influenced either through the sense of sight, hearing, or smelling. Many people have the power of bringing themselves into this condition, by looking fixedly, for a time, at any object, or at another person. The simplest way of hypnotizing a subject is to hold a small piece of glass, such as is often seen on chandeliers, before his eyes. Brightness of the object is, however, not essential. This is shown by the fact that while hypnotizing a patient the other day, by holding a piece of paper before him, Prof. Hammond made him think that it was the devil he was looking at, when he immediately sprang at the paper, and in struggling to get it away, so tore his hand as to make it bleed, and he became so excited that it was necessary to bring him out of the condition. But when the injured hand was shown him, the act of gazing upon it put him immediately into the same state again.

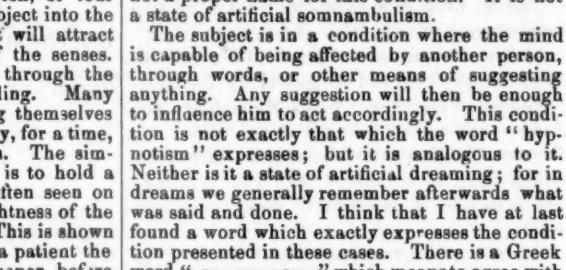
The same thing is true of animals as of men. In the summer time, when crabs are most lively, they may be hypnotized by standing them on their heads; and their legs could now be lopped off, without their knowing it. In cold weather they are too stupid to be influenced thus. Frogs are good subjects. They should be squeezed gently behind the head, and then thrown upon their back upon the hand or table. They can now be ripped open, and yet they will not move. Naturally, they are most restless and active when turned on their back. A Jesuit priest discovered that he could hypnotize a chicken by holding a white cord in front of it on the table. He attributed this effect to the great imagination of the hen, and he believed that she supposed she was still tied to the string. But a few years ago Czermak made experiments with crayfish and hens, and he showed that the same thing could be accomplished by a chalk line drawn in front of the hen's beak. So it could not be due to imagination. Moreover, it may be done almost as well when nothing is put before the hen. It is only necessary to hold her beak down upon the table for a few moments, when she will become completely inactive, as if asleep.

Professor Hammond now exhibited, what he said was a very savage hen, which he hypnotized yesterday, without putting anything before her to look at. He could then roll her about in any manner, without annoying her. The experiment succeeds better with wild fowls than with those which have become tame by domestication. The hen was now placed on the table before the audience, and a chalk line was drawn from her beak forward a few inches. In about half a minute she became partially hypnotized, and was rolled over. But this brought her out again. The experiment was repeated, and she now laid quietly on her back, in the Professor's hand. She was then returned to her bag.

Professor Hammond now said that, before experimenting further, he would try to explain to the class the manner in which he thought hypnotism was produced. But "hypnotism," is not a proper name for this condition. It is not a state of artificial somnambulism.

The subject is in a condition where the mind is capable of being affected by another person, through words, or other means of suggesting anything. Any suggestion will then be enough to influence him to act accordingly. This condition is not exactly that which the word "hypnotism" expresses; but it is analogous to it. Neither is it a state of artificial dreaming; for in dreams we generally remember afterwards what was said and done. I think that I have at last found a word which exactly expresses the condition presented in these cases. There is a Greek word "*συγγιγνωσκω*," which means to agree with another person's mind. This is what these subjects do. So the state may very properly be called "suggignoskism."

We will now see what is the probable mental condition while a person is in this state. By following this diagram you will have the explanation. Suppose *A* to be any organ of sense, for instance, the eye. *B* represents the nerve filaments, which carry sensations to the optic thalamus *C*, where, probably, the sensations are converted into perceptions. *D*, represents nerve filaments going from the optic thalamus, to the cortex *E*, where the individual becomes conscious of the perception. From here another impulse is sent along the fibres *F*, and reaching the muscles at *G*, causes the performance of some act. Suppose, for example, the subject sees a rat. The sensation from the eye at *A* is carried along the nerve *B*, to the optic thalamus *C*, and now the rat is perceived, and an impulse is sent along the filaments *D*, to the cortex *E*, and here the man becomes conscious that he sees the rat. Now, if a feeling of revulsion arises, a motor impulse is started from the cortex along the nerve fibres *F*, to the muscles at *G*, which go through the movement required, such as kicking at the rat. But now, suppose the cortex *E* is removed; there can then be no consciousness of the perception which is received at *C*. In this case a motor impulse is started through a different set of nerve fibres, and goes directly from *C* to the muscles at *G*, and causes the same act that would have followed had the impulse taken its normal course. Yet there is no consciousness of the act. Hypnotism, we thus suppose to be a condition in which the cortex is, for the time being, eliminated from the mental act. The person in the same condition as if he had



no cortex. But the spinal cord, as well as the optic thalamus, is probably capable of receiving impressions normally. So though the cortex is asleep, yet the spinal cord and optic thalamus remain awake to receive impressions transmitted by the senses. These patients are probably in essentially the same condition as is the frog whose head has been cut off. But with the loss of his head the frog can only be influenced through one of his senses, that of touch. Now it is known that if the frog, while in this condition, is subjected to irritation, as by a drop of acid applied to any part, he will move his legs in a perfectly rational manner, to brush away the irritating substance. So the frog knows what he is doing, through the medium of the spinal cord. But the human subject has a much larger spinal cord and optic thalamus than the frog, and he also has all his senses intact, through which to receive influences. These influences are received by suggestion, through any sense, and transmitted to the spinal cord or optic thalamus, and from there motor influences go out, and cause rational actions according with the suggestion. Yet the patient is all the while unconscious, because the seat of consciousness, the cortex, is not influenced. So in the condition of hypnotism, it seems that the cortex is cut off from acting, and the optic thalamus and the spinal cord alone are active.

Prof. Hammond now proceeded to hypnotize in succession the four young men who sat in the amphitheatre. There was nothing remarkable about their appearance. The first subject, Mr. H., was seated in a chair, and a small piece of glass was held before his eyes. In about five seconds the glass was drawn away from him, when he immediately arose and followed it wherever it was carried, and he seemed to endeavor to get his nose as near it as possible. Prof. Hammond then said, "You see now how serpents charm birds. He follows this glass wherever I go, and keeps his eyes fixed upon it, just as the bird does upon the serpent. This is a good example of charming. Notice also the change in his features; how earnest he is." The glass is then suddenly holden from his sight and he thereupon looks blank, and searches eagerly about for it. A large, suspicious looking bottle, is now produced, and he is told that it is a very pretty young lady. He thereupon steps back and looks admiringly upon it, his face beaming with smiles. He is told to go walking with the young lady, and he then takes the bottle gallantly on his arm, and walks about, talking to it. When told to, he asks if she will go home with him, and if she will marry him, and be his wife, and so on. "I will now show you that he is not shamming," said Prof. Hammond. He thereupon stuck the blade of a lancet through a fold of the skin of his hand telling him that it was a bouquet of fine flowers. He did not seem to feel any pain, and admired the supposed flowers until they were removed. He is then told that the bottle under his arm is not a young lady, but an ugly old woman, seventy-five years of age. He looks disgusted, and drops the bottle, and will have no more to do with it. He is then told that a large lemon is a nice ripe strawberry. A piece is cut off and given to him, which he eats with seeming enjoyment, and says it is nice, and he wants more. Not a muscle showed any of the signs which usually follow taking anything sour into the mouth. Several small lumps of alum were next put into his hand, and on being told that it was chocolate-caramel, he chewed and swallowed it with as much apparent pleasure as before. Its astringent action on the mucous membrane of the mouth was manifested in no way by the patient.

These experiments, so far, had proved that the senses of sight and taste were modified by this condition. The sense of smell was next tested. A match was lighted, and while the sulphur was still burning, it was held close under his nose, and he was told that it was good Cologne. He said, "it smells nice, but is strong, though." A bottle of ammonia is then put to his nose. He smells of it, but with some hesitation. When told that it is only clear water, he pours some on his hands and rubs them together as if washing them, and says that it is water. The ammonia caused watering of the eyes, as is usual, which showed that the normal reflex nervous actions were not abolished. Being told "there is a man over there who says that you don't speak the truth," he goes angrily up to the man designated, and preparing to fight, says: "You say I don't speak the truth? I'll clear you right out!" When told that it is not that man, but another one standing opposite, he rushes at the supposed enemy, saying: "I'll just settle you!" and proceeds to do so, in the most vigorous and passionate manner. While three or four of the bystanders are endeavoring to hold him back from injuring his opponent, by the violence of his struggles he is brought to his senses again, looks surprised and sheepish, and immediately being conscious of the taste of the alum and lemon which he had eaten, he goes directly to the water faucet, and rinses his mouth. He says he does not remember having eaten the lemon, but now tastes something sour in his mouth.

Mr. W., the next subject, was hypnotized in the same manner as the preceding case. His face, however, became immediately flushed and livid, and had a very earnest expression. He was first shown a magnet, which he was told would draw him wherever it went. He was then led about by it, and when held above and back of his head, he would bend far back, so as almost to fall, in his endeavor to keep his eyes upon it. "In this way, I might bend him double with it," said Prof. Hammond. Then to the patient, "If I turn the other end of the magnet toward you, you will be repelled by it." On reversing it, the patient fell backward on the floor, as if shot. A book was now substituted for the magnet, and precisely the same effects were produced. This book was next said to be a very pretty bird, which he took tenderly in his hands, and gently caressed. He was then told to sing to it, the "Sweet by and by." While singing, the book was taken from him suddenly, and he was told that it was gone. He stopped, and looked anxiously around, to see where the bird had fled. Pointing upward, Professor Hammond said, "there it goes. It is flying about the room up there." Quick as a flash he sprang over the railing of the amphi-

theatre, and rushed up among the audience, in pursuit of the imaginary bird, quite oblivious of the fact that he was trampling upon the students, who seized him and tried to hold him back, while he made frantic efforts to climb one of the iron supporting pillars, in order to attain his end. He was with difficulty stopped, by placing the book again in his hand, and telling him that the bird had come back. He appeared much pleased at recovering it. Professor Hammond now said, "This is a colored Baptist congregation before you, and you are a colored clergyman; give them a sermon. Thereupon, assuming a ministerial attitude, and making a bow, he reverently spoke as follows:—

"My colored friends. We meet here to night on this grand subject. We come here to see what good we can do for the wicked; and I think it is the place of every Christian in this congregation to work, and not to stand idle. We don't want to see you sitting in your seats here; but go into the rear of the church, and talk to those wicked sinners there. My Christian friends, while you see me talking, and you are sitting quietly in your seats, why don't you go out, and take those sinners by the hand, as you ought to do, and lead them in!" The Professor here interrupted him by saying, "There is a very sinful woman sitting there, go and try to convert her." He hesitated a moment, and then said, "I don't like to stop in the midst of my sermon, but I hope some of the sisters will go and talk with her." He then resumed his sermon; but was again interrupted by Professor Hammond, who told him that he was not a clergyman, but an actor. He then assumed a most tragic attitude, and after a moment, fell heavily forward on his face, upon the floor. Then raising himself partly, and resting on one arm, in a low voice he began thus:—

"It was not I who did it, but I know who did it. And when I get out of this prison, I will make him suffer for it." And then he became excited, and shouted, and rushed wildly around, so that it became necessary to bring him out of the condition, to make him stop.

Before hypnotizing the next subject, Professor Hammond said that in order to show that there was nothing in him which influenced the patients, he would let some one else hold the glass. So one of the gentlemen near by took it, and holding it before the eyes of Mr. W., he was soon hypnotized. Professor Hammond then said to him, "you are Macbeth. Now get up, and recite Macbeth to the audience." Then with appropriate gestures and actions, he began as follows:—

"Go bid thy mistress when my drink is ready she strike upon the bell. Get thee to bed. Is this a dagger which I see before me, the handle toward my hand? Come let me clutch thee;" and so on to the end of the passage. But Professor Hammond meanwhile showed that he could stop him at any point in his speech, by touching him upon his left temple. But when touched over the right eye he would go on again, from the place where he left off. This was repeated several times. Then interrupting him, the Professor said: "You are now Col. Ingersoll." Thereupon, assuming an off-hand air, with his hands in his pockets, he repeated a long passage from one of Col. Ingersoll's speeches. He was again stopped, and told that he was not Col. Ingersoll, but a sound regular orthodox clergyman. He then began thus: "My dear friends, I come forth to night, to try and convert some of the wicked souls in this audience. Here, in this house of God, it is fitting that we should have our hearts in our hands, and listen to the words of truth, and we should not be asleep. If there are any young men in this audience who are in the habit of visiting places of bad resort, I would say to them,"—here roars of laughter from the listeners drowned out the speaker's voice. He was then handed a bottle of water, and was told that it was whisky, and after drinking it, that he was getting drunk. He then continued his sermon, but spoke disconnectedly, like a drunken man, and finally was overcome, and ending his remarks with, "come boys, let's go and have a good time," he sank down into a chair. He was then told, that he was very sick at the stomach, and forthwith he appeared so, and seemed about to throw up the supposed whisky which he had taken. And as his pains increased he groaned out in great distress, "I've got the cholera morbus. O! send for a doctor." He was then told that a glass of water would sober him, which he drank and soon felt better. When told that his whole body was rigid and stiff as a board, his muscles all became so, and he was laid, while in this condition, between two chairs, his feet resting on one and his head on the other. He was again lifted up from this position, but not a muscle relaxed. When told to do so, he limbered up again, and walked about.

He was next made to represent Benj. Franklin, and he spoke at great length about the progress of electricity, and its benefits to civilized society, placing a book before him, which he supposed to be an electric battery. While he continued his speech, the fourth subject, Mr. P., was hypnotized. He was then led up to Benj. Franklin, who offered to give him a shock from the battery. He took what was supposed to be a strong shock, and it knocked him over. The lecturer thereupon cried out, "Is there any other gentleman, who would like to step forward and take a shock," and then went on with his lecture upon the virtues of electricity; quite unannoyed by the roars of laughter from the audience, caused by the exhibitions of Mr. P., who, believing that a rat had run down his coat, and then under his vest and other clothing, quickly tore off these articles of apparel, in search of the rat, and when finally told that it was in his coat on the floor, he stamped upon it vigorously, in order to kill the animal, and consequently presented a very ludicrous appearance. Benj. Franklin is now stopped in his lecture, and is told that there is a thunder storm coming up, and suddenly, that a flash of lightning has struck him. He instantly falls back on the floor and appears as if dead. Soon a piece of lemon is handed to him, and Prof. Hammond says, "Now eat this strawberry and it will bring you to again. He eats it and returns to life. A piece of the lemon is also given to the other, who is now dressing, and he thinks it is a good strawberry. And when he has put

on his vest, he is told by Prof. Hammond that he cannot button it, and though he tries persistently to do so, he does not succeed. His companion is meanwhile told that he cannot step over a cane placed upon the floor, and he endeavors in vain to do this. He is then given a glass of water, and is told that it is chloroform, to anæsthetize him and put him to sleep. He drinks it, and soon breathes rapidly and falls over as if insensible. He is then brought to his senses again by the Professor snapping him over the left eye with his fingers. He thereupon gets up, looks surprised and returns to his seat. The other subject has all this while been trying, without success, to pick up the cane, which he was told he could not do. Then, Prof. Hammond, placing a bottle on the table, said, "Here is a man who says he can lick you; hit him with a snowball." He thereupon made an imaginary snowball, and threw it; but was told at the same time, that he had himself been hit. He fell as if knocked down by a snowball, but getting up again, he rushed, in a rage, at the bottle. He was stopped, however, and held back. Being told that it was a very warm day, he took out his handkerchief and wiped the perspiration from his face, and removed his coat and vest, in order to cool off. And when he was handed a small piece of wood, and was told that it was a handkerchief, he used it to wipe his brow. He is next given something which he is told is whisky, and he then plays the part of a drunken man so faithfully, as to raise the suspicion that "he has been there before." He is then led away to the station house by a supposed policeman. Prof. Hammond then tells him that he is sick at the stomach. He immediately sits down and appears in great distress, and when a headache is added to his other troubles, it seems as if he would discharge the cause of all his woes upon the floor, but does not succeed. Prof. Hammond says that he can sometimes be made to vomit by such suggestions. He then says to the patient, "take this piece of honey and it will set you all right." Then he says, "you are getting better; you are all right now—you are a clown in a circus." The newly-made clown thereupon shouts, "bring on the balloons, now!" and cracks the traditional jokes, dances a jig, and when told that a chair is a horse, he straddles it, and keeps up motions as if trotting, and strokes the horse's neck. Being thrown from the horse, he again mounts him with a leap, strokes him, and says soothingly, "hold on now, Bismarck." He then stands up on the chair and rides bareback, balancing on one foot. He finally dismounts and makes his bow to the audience. He then cracks more jokes, and makes comical remarks like a clown, beginning with, "Tell me, sir, the difference between a baby, a monkey, a bald-headed man, and an orphan boy. You can't! Well, it's this: One's an heir apparent, one's a hairy parent, one's no hair apparent and one has ne'er a parent." He then tries to make the monkey, Jocko, jump through his hand. Being next told that he is an organ grinder and to sing a tune; he appears to be turning a hand organ and he accompanies it with a song. When touched on the forehead he stops the song, but contines the motions with his hand. When again touched over the eye, he re-commences his song at the place where he stopped. A lancet is next thrust through his skin on the hand, which he does not appear to feel. He is then told that his body is stiff, and while the muscles are thus rigid, Prof. Hammond shows how they will remain in whatever position they are placed, as in catalepsy. Any muscles rubbed by his hand contracted, and remained thus until released by rubbing their antagonist muscles. His stiffened body is then laid between two chairs, as in the previous case, but only one foot rests upon one chair, while the other leg and the arms are elevated. He remains in this position until he is struck over the eye and thus brought back to his senses.

Prof. Hammond next hypnotized two of the subjects at the same time, and both together strove to keep their noses near the glass, and would even jump for it, when held above their heads. Their noses were touched by a piece of cork, which was supposed to be red hot iron, and they appeared as if severely burned. A nose thus burned off was restored by an imaginary piece of ice. One, when told that his coat, and then his vest and trousers were on fire, quickly stripped off each in succession, and threw them away. The other is next asked to make a speech, and he talks for some time, making witty remarks. He can be stopped at any moment by rubbing over his eyes or any other part. Yet, though he makes no sound, his mouth continues to move, as if speaking still. When touched again, he goes on with his talk. He is then supposed to be Geo. Washington, and the other is introduced to him as Thomas Jefferson. But he is provoked at thus being interrupted in his remarks. One calls the other a liar. They get angry and strip for a fight, and rush at each other like wild cats. Seven or eight men can scarcely restrain them from injuring one another. In the struggle one comes out of the hypnotic state. The other still wants to punish him, and calls him a humbug. He then, at the word, falls asleep, and again awakens, smells of a bottle of ammonia and calls it cologne. A piece of wood, said to be red hot, burns his fingers. A small bottle is then held before him, and he is told that it is an angel. He immediately drops upon his knees before it, folds his hands in front of his face, in a reverential manner; all his religious emotions seem to be awakened, and his actions become almost hysterical in character. He seems completely awe struck. There is, however, a sudden revulsion of feeling, when he is told that the angel is a big black dog. He quickly jumps up from his knees, and leaps over the railing and rushes up among the students to escape. He is carried back again, and told that the dog has bitten him and that he has the hydrophobia. He thereupon rushes about wildly and appears as if mad. But though told that people with hydrophobia generally bark, like a dog, he does not do this. His ravings soon become so violent that he is with difficulty restrained; but with the magic words "all right," from the Professor, he is himself again.

Prof. Hammond now closed the exercises of the afternoon with the following remarks: "Gen-

tlemen, you can yourselves repeat these experiments as well as I, at any time. As you have seen, there can be no shamming here. Any number of severe surgical operations can be performed on a patient in this condition. It is as good as an anæsthetic for abolishing consciousness; but it is not available generally, because so few are subject to its influence. This is, scientifically considered, one of the most important powers of nature, and one about which little is as yet known. Some people can pass into this condition of their own accord, and may thus commit crimes unconsciously. A subject, when hypnotized, can be made to perform any criminal act, such as murder, or setting fire to a building, and the like; and he will plunge recklessly into any danger."

In illustration of this fact, one of the subjects was again hypnotized. A piece of paper rolled up was then given him, and he was told that it was a dagger, and that he must kill a man who was standing near him. He hesitated a moment, and then sprang on the man like a tiger, and plunged the supposed dagger into him again and again. He was then dragged off from his victim. Next, a paper was placed on the floor, and he was given a match, and told to set fire to that house. He lighted the paper, and then drew back with a smile, and admired the flame he had made. He was then restored to his senses.

Each of the four subjects was now asked if he remembered anything that was done while he was hypnotized. One replied, that he remembered a little only. The other three remembered nothing of what transpired.

This closed the exercises of the afternoon, and the class was now dismissed.

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Abstract of Paper by Dr. T. A. McBride, on the Early Diagnosis of Chronic Bright's Disease.

The author began by saying: I invite your attention, to-night, to the means at our command for the early diagnosis of chronic Bright's disease. I shall consider the diagnosis only of the forms of chronic nephritis which begin insidiously and progress slowly. The form which we shall encounter most frequently with this understanding is the cirrhotic, granular, or atrophic kidney. But there are certain cases of chronic parenchymatous nephritis, and a very considerable number of cases of chronic diffuse nephritis, particularly of the large white kidney, which begin as insidiously and progress as slowly as the atrophic kidney. The signs and symptoms of the atrophic are common to the other forms of chronic nephritis, and the differential diagnosis is not certain, and is even impossible. One can only say that the longer the disease continues the greater are the probabilities that the atrophic kidney will be found at the post mortem.

I ask your attention first to the symptoms and signs present in a well-marked case of chronic Bright's disease, which has existed for some time, and in which extensive œdema or anasarca has not appeared.

Next, I shall consider a class of cases in which no symptoms of the disease appear until the patients meet with an accident or injury, or are attacked with some disease, as pneumonia, or a tonsillitis, and also to certain other diseases in which the health has been perfect heretofore, and the disease is ushered in by a convulsion, by a coma, by a fever, with head symptoms, etc., and the diagnosis of the disease under these conditions.

Thirdly, I shall present the histories of five cases, seen by me in the last eight years, and in which a condition of lithæmia terminated in chronic Bright's disease.

Fourthly and lastly, I shall call attention to the very probable fact that chronic Bright's disease, and diseases of the arteries, are produced most commonly by the circulation and the elimination of certain excrementitious material present in the blood.

Symptoms and Signs of Chronic Bright's Disease.—Headache, usually persistent, frontal, vertical, occipital; deafness; amblyopia; dyspnœa, of which we have two varieties, spasmodic, Cheyne-Stokes; heart disease, emphysema and chronic bronchitis; hydrothorax, œdema of the lungs, etc.; dyspepsia, with great flatulency; nausea and vomiting; abdominal colic, usually coming on at night, with pains about the umbilicus, and with or without diarrhœa; dysentery; pains in the lower extremities, with or without cramps, and numbness of the extremities; trifacial neuralgia; insomnia, vertigo; frequency in urination, especially during the night; palpitations, pain over præcordia, often with a sense of faintness (slight attacks of angina pectoris); pain in the lumbar region; constipation; lassitude; muscular pains; coldness of the extremities; tendency to laryngeal and tracheal catarrh; epistaxis.

Signs.—Great pallor of the mucous membranes; baldness of the head; gray hair and dryness of the hair; tortuous temporal arteries; so-called staring eye of Bright's disease, with pearly conjunctivæ; sub-conjunctival œdema; peculiar odor of breath; emaciation; slight œdema of the legs, but since many persons in health have pitting over the shins, this must be carefully investigated in other portions of the body; the urine—and under this head Dr. McBride quoted Bravais, to the effect that urine, in chronic Bright's disease, is free from all odor peculiar to urine; he also referred to frothing of the urine; frequency of passing urine, particularly at night. The amount of urine passed in the twenty-four hours is the most important factor in the diagnosis of chronic Bright's disease. It may be stated as a general fact, that the longer the disease continues, the greater is the quantity of urine excreted, and it would be a factor in the diagnosis, to find that the amount continues much below the normal quantity excreted, or that the amount was much in excess of the normal quantity excreted. In the form of chronic parenchymatous nephritis, the amount passed is usually below the normal, and may be as low as ten to twenty ounces in twenty-four hours, and for a considerable part of the disease, as much may be passed as by a healthy

person; and it is observed that a small quantity passed for some days may be succeeded by a normal amount for some days, or longer, and then a smaller quantity. The longer the disease lasts, and the more that the pathological changes pass into those of chronic diffuse nephritis, especially of the small variety, the greater becomes the quantity, and the less frequent are the reversions to a small quantity.

In chronic diffuse nephritis the quantity is small at first, may be, perhaps, suppressed, then returns to the normal quantity, and at the end, perhaps again suppressed, but the longer the patient lives the greater becomes the amount of urine secreted. This does not continue uninterruptedly, since it may become less than normal or of a normal amount, or even suppressed, but the longer the patient lives, the greater the probability that the amount will increase, until, if death does not occur, it becomes much increased, barring accidents. It may be said that whether the case before us comes as a case of chronic Bright's succeeding an active attack, or as a case of Bright's primary, that we may have at first urine normal in quantity or very seldom wanting in quantity, and usually much increased, one should always bear in mind that any cause leading to a diminution in arterial tension, any cause leading to over-distention of the right side of the heart, any hepatic affection or pyrexia, or, perchance, certain abdominal diseases, may lead to reduction in the amount of urine to the normal or below. Nevertheless, a careful saving of the amount of urine passed in twenty-four hours is an important aid in attaining the diagnosis of the disease, and it must be impressed upon the patient that all of the urine passed should be saved.

The Specific Gravity.—This is a very important sign. First, in chronic parenchymatous nephritis, the specific gravity is only characterized in not differing much from the normal. It may be normal from 1.020 to 1.025, or even higher, 1.030 to 1.035, and again may range from 1.005 to 1.020. In chronic diffuse nephritis the specific gravity is regularly below the normal, often much so. It is usually below 1.020, and often, unless some reason to the contrary, 1.010 or below. There are, however, some exceptions: in the large white kidney, although regularly below that of health, there will be times when it will be normal or even above. The chances in favor of low specific gravity are always much in favor of chronic diffuse nephritis as compared with chronic parenchymatous nephritis. In the atrophic form the specific gravity is regularly below the normal, and yet it may have a normal specific gravity for weeks and months.

After quoting from various authors Dr. McBride continues:—

One may say, then, of the specific gravity, as was said of the quantity of urine, that the longer the disease has existed the lower will be the specific gravity, and that in the estimation of this in any stage of the disease it is necessary to consider the causes or conditions present which may produce an increase in the specific gravity. The color of the urine is usually pale.

Albumen.—In chronic parenchymatous nephritis albumen is usually present. The quantities vary from time to time. For days and weeks there will be from 50 to 80 per cent. of albumen in the test tube, and then for some time only normal quantities will be present. In chronic diffuse nephritis it is present in varying quantities, from a little to a good deal. The urine of the large white kidney always contains albumen, and usually in large quantities. The small kidney, the one that we have particularly to deal with, often contains no albumen at all, or only occasionally.

The presence of albumen, then, in the urine becomes often a valuable symptom, and in attempting the early diagnosis of chronic Bright's disease, one should examine, for albumen, the first urine passed in the morning, the urine after each meal, and the urine on retiring at night. If albumen is abundantly present in the first specimen that is examined, that is sufficient, but if it is not present it must be sought for in each specimen passed. Very often it is only present in some one specimen passed in the day. It may be in the early morning, or in the specimens passed after meals, but very often is found in urine passed at bedtime after the fatigues of the day. As Murchison has pointed out, in lithæmia, or suppressed gout, when the early structural changes are perhaps just beginning in urine of a high specific gravity, and loaded with urates and uric acid, albumen is often found to be present at this time. Albumen, however, has been found to be present in the urine under circumstances in which the patient is apparently healthy. This has been referred to by Sir William Gull, Moxon, Leube, Ultzman, Bamberger, Clement Duke, Saundby, and also by Munn of this city. It has also been observed by many observers in the course of the exanthemata, in pneumonia, after an attack of epilepsy, etc., where there was no kidney disease. The explanation for the transient appearance of albumen is probably one of the following, and there are probably cases occurring under each head:—

1st. In certain cases the urine is loaded with uric acid, oxalates, etc., and it has been suggested that active irritation or increased hyperæmia has been produced in the kidney by the elimination or excretion of this substance, and the albumen has resulted from that.

2d. In other cases there is a vaso-motor paresis, as has been suggested by Bamberger in the Vienna *Gesellschaft der Aerzte.*

The researches of the state of the ganglionic centres in Bright's disease, by J. M. Da Costa, M.D., and Morris Longstreth, M.D., PH.D., *American Journal of Medical Sciences*, July, 1881, makes this much more probable.

It is difficult to give albumen appearing in this manner in the urine of persons apparently healthy, its proper value. The question is, has it any significance at the present or in the future? I have been accustomed to decide the question in the following manner: if there is a strong heredity of Bright's disease, and if the patient has a pulse of high tension, and has perhaps one of the diseases resulting from high tension, or which is often associated with Bright's disease, I think then that I am justified in stating that this is a symptom of beginning structural disease of the kidney. Otherwise, if these con-

ditions are not present, the appearance of the albumen is of no special significance pathologically.

Tube Casts.—The presence of casts of the tubules of the kidney in the urine is not regarded as of the importance once thought. It is doubtful whether casts, or at least any number, are obtained from that portion of the kidney beyond the "down-looping" tubules of Henle; that is, from the labyrinth of the kidney, the origin of the convoluted tubes and Malpighian tufts. The tube casts are, apparently, entirely derived from the excretory portion of the kidney, that is, from that portion of the tubules which extend from the large convoluted tubes at their termination in the down-loops of Henle, or from the beginning of the narrowest portion of these, to the point of termination of the tubules in the papillæ. Cast matter from the labyrinth may, by considerable pressure and the consumption of much time, possibly be forced from the loops of Henle, which are elastic; but it is doubtful whether many casts are carried through in this manner. Rindfleisch states that casts are formed only very occasionally in the convoluted tubules, that when convoluted casts are found in the urine, they receive their tortuous shape from the intermediate, or connecting piece of Schweigger-Seidel. Moreover, from the condition of the casts, whether fatty or granular, one cannot predicate the condition of the kidney, unless casts exist in very great numbers, for one cannot tell how long they may have remained in position, or how long in transit. One can say this of their position, or value in diagnosis, that their absence does not indicate absence of a nephritis; that their presence in moderate quantity betokens the existence of some degree of nephritis, and that their great number proclaims an extensively diseased condition of the kidney. The signs already specified, particularly the amount of urine, the specific gravity, and the presence of albumen, are apt to afford more value in arriving at a diagnosis than the casts. The presence of casts is simply of corroborative worth.

Deposits in the Urine.—These are in themselves, excluding casts and so on, but of little importance, yet the crystals of uric acid and oxalate of lime undergo some alterations in appearance, and in the presence of colloid matter, such as mucin and albumen, one's suspicions may at least be excited by their appearance, and a more careful examination of the urine will then be made for the presence of the albumen.

Increased Arterial Tension.—This is at present regarded by many as the most constant and most valuable symptom of Bright's disease. It is present both in the acute and the chronic forms, but is most constant in the latter. It is not entirely continuous, but when absent, an explanation can usually be afforded. To appreciate this symptom it requires rich experience and constant practice, when one is unaided by instruments of precision, the sphygmometer and the sphygmograph. Some years ago, when reading "The Handbook for a Physiological Laboratory," by Burdon-Sanderson, vol. I, Philadelphia, 1873, pp. 218, I was much impressed with this statement: "the arterial pressure, although in the mean remarkably constant, almost as constant as the temperature of the body, is subject to recurring variations—*i. e.* alternating augmentations and diminutions, which are of three orders." Until within the last year I was disposed to regard the statement, as to the constant condition of arterial tension within slight variations, as an assertion which experience did not entirely support, notwithstanding the high character of the author. My observations made within the last year go to confirm all that Burdon Sanderson has said. I shall refer particularly to what convinced me as I pass on in the subject.

For the appreciation of changes of tension, very considerable experience is necessary. I shall consider arterial tension in the following manner: First, the determination of arterial tension by palpation and other signs. In increased arterial tension the arterial system is overfilled with blood, and this is a constant symptom with certain exceptions, in all forms of Bright's disease, whether the Bright's disease occur primarily or whether it occur as secondary disease; for example, secondary to phthisis.

The following are the clinical evidences of this condition: In extreme cases the temporal and radial arteries are tortuous, and being full of blood they leap from their beds apparently at each pulsation, producing a pulsation somewhat resembling that of aortic regurgitation, only that the artery in the interval does not disappear. The radial artery in marked cases feels very much like the tendon of the flexor carpi radialis adjoining it, or like the vas deferens.

One must appreciate besides the arterial tension, the existence of endarteritis deformans, if present. The pulsation in the atheromatous vessel is not so definite to the touch as in arteries of high tension. The pulsation is, however, usually distinctly visible; even when there is no aortic regurgitation, although the pulse resembles it. The pulsation in simple high tension without extreme arterial tension is visible, but not to such a degree as when associated with arterial disease. The pulse is also easily compressed in cases of arterial disease. In a small contracted artery high tension is not so easily appreciated. Then one must make pressure over the artery against the styloid process of the radius, and appreciate the degree of pressure required to stop the circulation. It is well, also, to compare the degree of pressure required to compress the radial artery with the amount necessary to compress the temporal arteries, although to do this requires much greater delicacy of touch. The artery in health ought not to be appreciable to touch in the interval of pulsation, and if it is, it is due to the fact that the artery is full of blood, or that there is present a thickening of the coats of the vessels.

Qualities of the Pulse.—The pulse is long, by reason of the prolonged systole, and it gives the finger resting on the pulse a labored, pushing sensation. The pulse is persistent, because always full, and is recognizable in diastole as well as in systole.

The Pulse is Hard.—The more blood forced into the arteries by the strong, hypertrophied heart, the harder is the pulse. When the pulse has not this hard quality under this condition, it

is a sign usually of failing heart, and instead of the hard feeling being appreciated, only a great degree of incompressibility remains, and to the superficial touch the pulsation may seem feeble. Before considering some pulses which appear, by reason of the changes in the heart, in the aorta, or in the lungs, I wish to call attention to certain other signs of high arterial tension.

A beat or pulsation "is perceived over an enlarged, ascending aorta, to the right of the upper portion of the sternum, and mainly in the second space, in a few rare cases of acute Bright's disease on the one hand, and of granular kidney, in its advanced stage, on the other" (Sibson).

Next, marked accentuation of the second aortic sound, often of a metallic quality, is frequently heard. If the second sound over the aorta in the second right space be compared with the second sound over the pulmonary artery in the second left space, in each about one inch from the sternum, the sound is much less loud and more flat over the pulmonary artery, wanting in metallic note, unless the metallic character of the aortic second sound drowns the natural character of the pulmonary second sound, and is heard over both places, though much louder over the right.

"A remarkable sign occurs in the majority of cases of acute Bright's disease, in the form of doubling of the second sound over the region of the cornus arteriosis, and less visibly over that of the pulmonary artery, and less still over that of the ascending aorta." "This second sound," says Sibson, "is the more metallic of the two second sounds."

"In all cases of chronic and established Bright's disease, but not acute Bright's, we may, and often do, have a double second sound over the arteries, especially the cornus arteriosis, and a double first sound over the septum of the ventricles. In one or two cases there was a restricted meeting point over the upper part of the septum, close to the cornus arteriosis, at which the two signs meet each other at the borders of their respective areas, and then we had both a double first and a double second sound heard simultaneously."

The Bruit de Gallop.—The Bruit de Gallop, which is frequently overlooked, and is often not deciphered, and is considered simply as a case of irregular heart's action, has been described by Bouillaud and Potain, and is described also in the August number of the *Archives of Medicine*, 1881, by Dr. Frederick P. Henry.

Hypertrophy of the heart, and especially hypertrophy of the left ventricle, is one of the most valuable signs of chronic Bright's disease, although it occurs in a considerable number of acute and subacute forms of nephritis. "Another circumstance, one which must not pass unheeded, is that the degree of hypertrophy of the heart, and, therefore, its compensating power or capacity, will vary in different cases, in accordance with the general state of the patient's nutrition and the external conditions to which he is subject, and that, as a matter of course, the same factor will materially influence the course and issue of individual cases of the disease" (Bartels).

The signs by which hypertrophy of the heart i recognized are the intensification and doubling of the sounds already referred to, the displacement of the apex, and an increase in the superficial and deep areas of dullness. Galabin gives "on the connection of Bright's disease with the changes in the vascular system," 1873, thesis, in granular kidney, 53 cases of hypertrophy out of 79 cases, 24 of which were in women. If it be asked, why is hypertrophy not more common, the answer will be: First, the hypertrophy, or its compensatory power, will vary in different cases in accordance with the general state of the patient's nutrition and the external conditions to which he is subject, and that as a matter of course the same factor will materially influence the course and issue of individual cases of the disease. Second, Moxon, in the *Lancet*, Jan. 12th, 1878, p. 43, states, "the heart's increased power is exerted in the vessels instead of being diffused on hydrostatic principles over the enlarged interior, as is the case when the cavity is widened, but the heart may reach twenty ounces in weight, and yet if its cavity is not enlarged it may give no sign at all, as we have proved on several occasions, in cases where, knowing the presence of granular kidney in persons with apoplexy, we have examined for evidences of cardiac hypertrophy and found none at all, whereas, post mortem directly after showed hearts weighing from seventeen to twenty ounces."

Bartels is of Dr. Johnson's opinion, that "in states of general malnutrition, which include a watery condition of the blood, or a general diminution of its mass, neither can any hypertrophy of the heart take place, nor need dilatation of its cavities take place." In this way is to be explained absence of hypertrophy in many cases of disease with chronic Bright's disease. Bamberger states that clincially the secondary forms of Bright's disease are characterized by the frequency with which the renal symptoms are overshadowed and obscured by those of the original disease, by a rarity of cardiac hypertrophy; 3.3 per cent. occur in the secondary forms of Bright's disease, as against 42.6 per cent. in the primary form, excluding cases with concomitant valvular disease, endocarditis, aneurism or emphysema. Bamberger, moreover, states that "hypertrophy of the heart occurs in every period of the disease, but with greater absolute as well as relative frequency, the longer the disease lasts." So that in accounting for the absence of hypertrophy the element of time must be considered.

Dr. J. Milner Fothergill, *Lancet*, Jan. 9th, 1875, also states that in some patients, especially in women, the heart in high tension, instead of hypertrophying, dilates, the amount of urine diminishes, and the hard, incompressible pulse disappears, and palpitation supervenes.

In addition to this may be added the difficulty in determining hypertrophy unaccompanied by dilatation; also when hypertrophy and dilatation are associated with emphysema and ossified cartilage.

The Sphygmometer.—This instrument was invented by Handfield Jones, and is intended to measure the arterial tension. I have made much use of it for three or four years, and have not been able to obtain any positive results.

The Sphygmograph.—After some four or five years' daily experience in the use of the sphyg-

mograph, I am prepared to say that I regard it as one of the most valuable instruments in our possession. But also as one which requires a most intelligent use, and a very considerable experience, in order to profit by its showings. Moreover, one must bear in mind, that by itself, as is the case with so many instruments of diagnosis, sources of error are considerable. It must be regarded as contributing much, and as an adjunct. But very seldom can we rely alone upon the sphygmograms or tracings, to make positive statements. Rarely, also, do we obtain tracings which are pathognomonic. Indeed, often the condition of arterial tension cannot be entirely settled by the sphygmograms, and yet we could not dispense with it in such cases, as it is of a certain degree of assistance.

The sphygmograph is of considerable importance in appreciating conditions of blood tension, and the one without a spring (Blondel's), and where a dead weight is applied, gives the most correct interpretation of the curve of the artery. The appreciation of the amount of pressure used is absolutely necessary for the estimation of the degree of arterial tension, and one ought not to depend upon the sphygmograph alone in arriving at a conclusion as to the presence or absence of degree of tension, but he may rely to a greater degree upon an instrument like Blondel's, in appreciating high tension. The only errors in the tracings which can occur with this instrument, are the depth of the artery and its being situated too much to the ulnar side, under the tendon of the flexor carpi radialis.

Dr. McBride then described the pulse trace, as made by the Marey, Mahomed. Pond, Dudgeon, and Brondel sphygmographs, and mentioned certain anomalies of the sphygmogram in the course of chronic Bright's disease.

While, however, asserting that high arterial tension is one of the most constant symptoms of Bright's disease, one must not expect to find it always. It is absent in the following conditions, and one should bear them constantly in mind:—

(*a*) In pyrexia, a temperature of 102° is accompanied, as a rule, with full dicrotism.

(*b*) Loss of blood, as in epistaxis.

(*c*) Contraction or obliteration of pulmonary vessels, as occurs in emphysema.

(*d*) In phthisis tuberculosis, especially when accompanied with high temperature.

(*e*) In certain forms of valvular disease, as mitral stenosis, mitral insufficiency and aortic regurgitation, where the heart is weak and the arteries no longer overfull.

(*f*) Paresis of vaso-motor centre from drugs, or injuries to the spinal cord.

Now we come to the consideration of another set of signs, the presence of thickening of the walls of the blood vessels, especially of arteries of the size of the radials and temporals. It is very generally admitted that changes in the small arteries throughout the body are a common feature in chronic Bright's disease. Drs. Johnson, Gull, and Sutton, of England, have especially called attention to this; Dr. Johnson maintaining that this increase in the thickness of the arterioles, is due to hypertrophy of the muscular walls of the arterioles, and Drs. Gull and Sutton that it is due to some fibroid change in the walls of the vessels, which they term arterio-capillary fibrosis. This change has appeared to be such a common symptom in the cases of chronic Bright's disease that I have seen, that I have thought it worth while to mention it as a symptom of the disease, where the diagnosis must depend upon the collocation of a number of symptoms which obtain some value in arriving at a diagnosis, in which other causes of the diseases which are here considered as a sign, can be excluded.

Endarteritis chronica is a common disease, and is especially frequent in males. It is rarely found before forty, according to Quincke (*Ziemssen*, vol. vi, pp. 340, New York), although very many cases have been observed under forty. It is common to old age, and yet it is sometimes absent in persons from eighty to one hundred years of age. Guineau de Mussy considers it just as frequent and severe before the forty-fifth year as after it. The causes assigned to its production are chronic alcoholism, lead poisoning, gout, rheumatism, syphilis and chronic disease of the kidney. It occurs also in anæmia, and in starvation. Since the more recent theories advanced in explanation of the occurrence of chronic Bright's disease, namely, the circulation and excretion of certain noxious substances, as I shall mention presently, it seems not unlikely that endarteritis chronica should be produced by a similar cause, especially when small arteries are involved. I therefore believe that when we can exclude certain other causes of endarteritis, as rheumatism and alcoholism (and one cannot exclude any more of the supposed causes of this disease, since it is said that the remaining diseases which appear as causes are as frequently causes of kidney disease), this condition of the vessels should be regarded as a symptom of some importance in making the diagnosis of a chronic nephritis in which perchance no urinary or other symptoms have thus far appeared.

I have been unable to find any allusions to the condition of the arteries of the extremities in cases of chronic Bright's disease. The frequent presence of apparent thickening of the walls of the temporal and radial arteries in these cases during life, leads me to think that if examination of these arteries was made more frequently, endarteritis would be found to be more common than is now supposed. Moreover, there is greater reason for supposing that the arteries of the extremities should undergo the changes peculiar to endarteritis than the arteries of internal organs. Excluding, then, other causes of endarteritis chronica, the presence of arteries in this condition has a certain weight in diagnosis, and I have yet to meet a case in which a careful examination and a full consideration of all of the symptoms have been made, in which Bright's disease was not found to be present in connection with the diseased arteries.

The assistance in diagnosis of chronic Bright's disease, rendered by the presence of certain diseases common to this affection.

First. Emphysema. Delafield, in Robert's Notes, considers this matter, and refers to the following diseases, and Bamberger also makes mention of them:—

1. Emphysema, which occurs in a consider-

able number of cases. At Guy's Hospital, chronic bronchitis, they say, means, as a rule, chronic Bright's disease.

2. Pneumonia. In patients with chronic Bright's disease, and when the patient is over forty, this should attract attention. Bamberger gives 162 cases in 807 cases of primary Bright's disease, or 22 per cent., in which pneumonia was present, and in which the interstitial kidney was only first recognized by post-mortem.

3. Cerebral Hemorrhage. This is another affection frequently found with Bright's disease. Wilks and Moxon assert that in 75 per cent. of the cases of chronic Bright's disease this occurs. They also state that the hemorrhage in these cases is very great, and that it occurs in persons who have been up to this time supposed to be perfectly healthy. Bamberger states that in 82 cases of 807 cases of primary Bright's disease, cerebral hemorrhage occurred, and that in 52 of these the small kidney was found.

4. Pericarditis unassociated with rheumatism, the exanthemata, pleurisy, and pneumonia, is due almost always to Bright's disease.

5. Peritonitis. When the common causes are excluded, a certain number of cases are left, deemed hitherto idiopathic, and most of which are due evidently to Bright's disease. Bamberger mentions 2.7 per cent. of cases in the 807 of primary Bright's disease.

6. Pleurisy, especially when double, is met with in Bright's disease, or tuberculosis.

7. Cirrhosis of the liver.

8. The presence of aortic regurgitation and mitral regurgitation, without a previous history of rheumatism, the exanthemata, pleuritis and pneumonia, physical strain, alcoholism and syphilis, are entitled to some consideration as evidences of the presence of previous high tension and probable Bright's disease. Dr. Janeway, in a note to me, states that aortic diseases, as a rule, are more common in those advanced in life; that in the old, also, mitral tension is comparatively rare; that the mitral murmurs are more common in the young, and to this we may add, that mitral regurgitation will be found, as a rule, more frequent in the old when all other causes have been excluded.

In the diagnosis of chronic Bright's disease, we should consider, also, the diseases in which Bright's disease is more commonly secondary, and this has a certain weight in enabling one to obtain a diagnosis.

We now come to another point in diagnosis, heredity, whether predisposing or exciting. Hereditary influence is sometimes the sole recognizable cause of the disorder. Delafield, Robert's Notes, states, "there seems to be a disposition in certain families toward the development of the disease."

The second variety of chronic Bright's disease which has been so well described by Dr. Delafield, in his published notes. In this class we meet certain cases that have presented no symptoms of kidney disease previously, but if they meet with a surgical accident, break a leg or receive a wound, or contract some disease, a tonsillitis or a pneumonia, or pleurisy, then many of the objective signs appear, and some of the symptoms of chronic Bright's disease are complained of. They may have œdema, evidences of hypertrophy of the heart, of valvular disease of the heart, which I assume as most common to chronic Bright's disease. The presence of high tension if there be not excessive fever, thickened arteries, dry and gray hair, dyspnœa, certain stomach disturbances, change in the quantity of urine, change in the specific gravity, appearance of albumen, and perhaps casts. They may pass out of this condition. The albumen disappears, specific gravity becomes normal, or more likely becomes very high; or all these signs and symptoms of chronic Bright's disease may remain. Where they do not they may attain apparent health, retaining only the objective signs of Bright's disease, excluding those of the urine. Under this class may also be included certain other cases in which the disease is ushered in by, or is first manifested by

(*a*) A convulsion, resembling in every respect an epileptic convulsion, only that the temperature is higher than in epilepsy, since the temperature in uræmic convulsions, coma, is high and not low, as stated by certain French writers.

(*b*) One may be attacked with coma as the first sign of kidney disease, and this is accompanied by high temperature.

(*c*) Or severe neuralgic pains, or a severe headache may be the first manifestation.

(*d*) Or they may be attacked with acute delirium and other head symptoms, with high temperature, and die or come out of it. In the examination of these cases for the purpose of diagnosis, we consider the age, the heredity, the previous history of the patient as to the former existence of a dropsy, general or localized; the history of gout, rheumatism, alcoholism, lead poisoning, and the presence formerly of deposits of uric acid or oxalate of lime in the urine. Then we proceed to the examination of the patient, and endeavor to discover whether any of the signs that we have pointed out are present.

Dr. McBride then gave a brief history of the five cases referred to at the beginning of his paper.

The discussion which followed was participated in by Drs. Flint, Draper, Delafield, Chase and Loomis.

The Value of Viscum Album or Mistletoe in Affections of the Heart.

In a communication to the *Practitioner* for November, 1881, Dr. R. Park, of Glasgow, states that among a clientèle consisting mostly of miners, he found an unusually large proportion of cases of heart disease. Some were displacements, some valvular disease, some hypertrophy, some asthenia and palpitation simply. Rheumatism and the cramped position in which the men worked were variously blamed for the morbid conditions. Whatever the exact pathological condition might be, incompetency and tumultuous distressing cardiac action were the immediate symptoms calling for treatment in those that presented themselves. For these he prescribed ʒss doses of tincture of mistletoe every four hours, with the very best results; all the patients returning with the above symptoms ameliorated. The Doctor regards the mistletoe as a valuable substitute for digitalis.

EDITORIAL DEPARTMENT.

PERISCOPE.

On the Preparation of Tinctura Ferri Chloridi.

According to a letter from Dr. E. R. Squibb, published in the Boston *Journal of Chemistry* for Sept., 1881, freshly prepared tincture of the chloride of iron is comparatively valueless. This is what he says:—

In regard to tinct. chl. iron, the last committee of revision of the U. S. P. made a mistake which is to be corrected in this revision. Tinct. chloride of iron is not fit for use until at least six months old. I never send out any that is less than six months old, and have now changed to make it a year old. An important part of its therapeutic value depends upon ethers that are generated slowly from the large excess of HCl [hydrochloric acid] and the alcohol, and any one who will compare the sensible properties of an old with a recently made tincture will see how very different they are. The present U. S. P., therefore, in permitting the acid solution of the chloride to be kept and sold separately, so that the pharmacist can make up his tincture as he wants it, makes a great mistake, and on that account I have never made nor offered the solution of the U.S.P. for sale. The solution of chloride of iron of my list is a very different thing, and is the old Pravaz solution, which has been used chiefly for surgical purposes since the time of Pravaz. The second mistake of the U. S. P. was in adopting an incorrect name for its highly acid solution, and thus confusing it with a solution in common use which is very carefully made normal, or free from the smallest excess of acid. This solution (of my list) contains fifty per cent. of normal neutral chloride of iron, and from being normal does not do to make tincture at all; *and much alcohol has been wasted in trying to use it.* This, however, was not my fault, though perhaps, I ought to have dropped it from my list when the U. S. P. took the same name for its acid chloride. There have been many mistakes made and much harm done also on the other side of this matter, by surgeons prescribing for their uses the liq. ferri. chloridi, and of course getting the U. S. P. solution, which from its abundant free acid was very hurtful in surgical use.

The Operation of Lumbar Nephrectomy.

A case of this, for stone in the kidney, was recently performed by Mr. R. Barwell, who describes it as follows in the *British Medical Journal*:—

I made an oblique incision from the eleventh rib to the crest of the ilium, and endeavored to recognize the edge of the erector spinæ. Nothing but scar-tissue could be found; the guide to the kidney was lost. The mouth of the sinus was dissected off, and along the track I pressed my finger, felt the stone, and passing the knife along the digit, enlarged my cut to the size of the outer wound; but, owing to the small space between the crest of the ilium and the rib, the room obtained was quite insufficient; the scalpel was therefore run along the border of the rib, so as to make an angular flap, which being held aside, afforded more space. Up to this time, a barely appreciable amount of blood had been lost; but an attempt to extract the stone, which broke in the forceps, produced very considerable hemorrhage from the kidney. Dreading for so anæmic a patient any loss of blood, I pressed on the gland a piece of sponge, upon which Mr. Morgan kept up firm pressure, while I, deeming in the pressing circumstance boldness to be the best discretion, very quickly partly enucleated, partly broke down the gland sufficiently far to permit me to pass a ligature over it, and tie the vessels near their entrance. This completely checked all bleeding, and I could now more leisurely peel away the organ. I thus separated it entirely, save a small portion of its upper extremity, which I could not sunder save by incurring risks that I deemed unjustifiable. Another ligature was now thrown over the gland, and the pedicle, vein, artery, and ureter were tied *en masse* with a strong piece of carbolized silk. But the kidney was far too large to be extracted entire between the rib and the ilium; therefore, a pair of large curved scissors were introduced, the gland was divided from without inward, and bloodlessness being verified, each half was separately cut away and removed from the wound. The great cavity remaining was then filled with carbolized sponges and bandaged. The operation and subsequent dressings were managed on antiseptic principles. During the night of the operation, the temperature was 101.8°, that is, two-tenths of a degree higher than it had been four nights previously. There was no shock. On the next morning, the urine contained a large amount of pink (blood-stained) albumen. Its quantity was thirty-two ounces; specific gravity 1.013. Further there is little to record. Regulation of diet mitigated, and then eliminated, the albuminuria. The temperature became on the third day, and has since remained, normal. A small sinus-mouth, furnishing very slight discharge, remains. The boy is fat and strong.

Nephrectomy has been performed for stone in the kidney ten times; the case just recorded is the third successful one.

The Value of Comparative Pathology.

On this little understood subject, Professor W. S. Greenfield, of Edinburg, says, in a recent lecture published in the *Lancet*:—

It is by the study of comparative pathology that we have come to learn how intimately the processes of disease in the lower animals may resemble those in man, and it is by experiments upon the diseases which they have in common with man, that we have come to appreciate those differences in constitution and in reaction to disease which enable us in a great measure to control the results of experiments.

Comparative pathology, that is, the study of the diseases of the several classes of animals, and the study of the same disease in its reactions upon different classes of animals, is to a very large extent a growth of late years. Just as I remarked that the growth of human morbid anatomy followed in the wake of the progress of normal anatomy, so has the study of comparative pathology followed the development of comparative anatomy, comparative physiology, and comparative embryology.

It is true that a study of diseases of animals has been to some extent conjoined with the study of comparative anatomy and physiology, and that Harvey, Hunter and Jenner were well aware of the valuable information to be derived from a comparison of human with animal pathology. It was well known that some of the lower animals were subject to certain morbid growths and parasites analogous to those which afflict man, such as warts, cancers and hydatids, and that some animal diseases, such as hydrophobia, could be communicated by inoculation to man; and long before Edward Jenner discovered that cowpox could be transferred to man, it was suspected that smallpox was primarily an animal disease.

But we have only recently come to understand the full bearing of those endemics and pestilences which have in all ages desolated the animal world, and to see that we stand on common ground with the brute creation in being subject to the same or to analogous plagues, and that by the study of these, under their simpler condition, we may hope to throw light upon the forms affecting man. It is in this branch of comparative pathology—that relating to infectious and contagious diseases—that we see best the value and importance of experimental pathology, in the direct benefits which it confers on the whole brute creation, as well as upon man, and it is in this field that have been gained some of the most remarkable triumphs of modern pathology, which bid fair to revolutionize the science and treatment of infectious disease.

On Extra-uterine Conception.

At a recent meeting of the Edinburg Obstetrical Society, Dr. Battey, of Georgia, who was present by invitation, stated that he had seen four cases of extra-uterine fœtation. In three, no operation could be performed, and in one he had operated as he would afterwards detail. In cases where the fœtus had died, their duty was to wait and let nature, as it were, lead on, aiding her when necessary. When the fœtus was living, a very grave question arose, throwing very great responsibility on the medical man in charge. There was really no fixed rule. Cases of operation there were in fair amount and with moderate success. In his own case the patient was in the sixth month of gestation. The diagnosis was very difficult; and doubt and skepticism were expressed by other medical men as to the opinion he had given on the case. The os uteri was inaccessible, the uterus high up and to the left, and the true pelvis filled with a sac. Ballottement was obscure at first, but more distinct afterwards. Fœtal movements were obscurely felt. The distress and pain felt by the patient were unusual, and latterly the obstruction to the bowels very serious. There was also difficulty in emptying the bladder, so that the catheter had to be employed. The bowel, indeed, was so loaded, that after operation a large amount of fecal matter issued, simply from the distention. The case was such as forced him to operate. In making the vaginal incision, he used Chassaignac's écraseur, first passing the curved trocar with reversible blade. He punctured the sac in front of the rectum, and shoved the cannula toward the neck of the uterus, as high as he could. He next brought out the trocar in front of the uterus, caused the chain to follow, and cut through the tissues without hemorrhage. In seizing the fœtus the opening proved too small. This displaced the placenta, and a fearful gush of blood occurred. He tamponed both sac and vagina, but the patient became pulseless. Under frequent hypodermics of whisky (140 150) she rallied, however, but died ultimately, from septicæmia, on the sixth or seventh day. The child survived one and a half hours. Dr. T. G. Thomas had operated with good success in four cases. It was evident that every case had to be treated on its own merits.

Long Retention of the Placenta.

The following case from the *Lancet* has several points of interest which will occur to the reader. It is reported by Dr. A. W. Edis:—

Mrs. T., aged thirty-nine, married nineteen years, mother of twelve children, besides having had several miscarriages. She became again pregnant in the spring of 1881. Towards the end of June, without any well marked assignable cause, she miscarried, at the time when she considered herself between the fourth and fifth months of pregnancy. A nurse who attended her thought everything had come away. All traces of hemorrhage ceased at about the end of a fortnight, but in a month from this date she had a profuse loss of blood per vaginam, and the discharge of blood continued on and off for another two months. On the evening of Oct. 6th I was requested to see the patient in consultation, as the hemorrhage had returned more violently, large clots being from time to time passed. On examination the uterus was found to be much above the normal size, the os patulous, readily admitting the finger, which detected a mass of moderately firm consistence, adherent to the fundus, smooth and somewhat lobulated on the surface, evidently, from its feel and its extensive base of attachment, placental. But little difficulty was experienced in passing two fingers within the cervix. The mass was gradually peeled away, commencing at the circumference. It was then extracted piecemeal by the aid of ovum forceps, as it was too large to pass through the os uteri. There must have been at least three ounces by weight, probably the whole of the placenta. It was not the least offensive to the smell, nor did it bear the slightest trace of decomposition. The uterus was subsequently washed out with hot water, ergot and opium administered, and a pad and binder applied.

Reviews and Book Notices.

BOOK NOTICES.

The Science and Art of Midwifery. By William Thompson Lusk, A.M., M.D., Professor of Obstetrics and the Diseases of Women and Children, in the Bellevue Hospital Medical College, etc., etc. With Numerous Illustrations. New York: D. Appleton & Company, 1, 3 and 5 Bond Street. 1882. Cloth, 8vo. pp. 687.

Notwithstanding the great number of excellent treatises on midwifery in the English language already in existence, the improvements made in the practice of the obstetric art have of late been so numerous, and the views entertained respecting the physiology and pathology of pregnancy, or what may be considered the science of midwifery, have undergone so many and rapid changes, the results of modern investigation, that a work which, like the one before us, combines the qualities of being a safe and reliable guide to the practitioner, at the same time that it presents to the reader a fair statement of the labors of recent investigators, cannot but prove useful. As the author remarks in his preface, "the art of midwifery has ceased to rest upon empirical rules, and is already, with rare exceptions, the natural outcome of scientific principles." A peculiar feature of this work is, that the author seems to have lost almost entire view of *self*, and retired behind plain statements of facts; and the doctrines taught have, he informs us, been subjected to rigorous clinical tests, while he has everywhere sought to supplement and correct his own personal experiences by the recorded observations of others. Throughout the work, therefore, we find numerous references to recent authorities, which will enable those desirous of doing so to examine for themselves the original sources of information. Under the "Pathology of Pregnancy" he deals more fully with such accidental complications, fevers and other diseases, which may occur during pregnancy than most authors. With regard to the use of anæsthetics in the management of natural labor, he thinks that in the first stage of labor they are seldom required, and if used, would be apt to do more harm than good; in the third stage they are unsafe, but in the second stage he regards them of real advantage, if used in moderation. In the choice of anæsthetics he gives his preference to chloroform, except when complete and prolonged anæsthesia is required, when he regards ether as the safer agent. The application of Lister's principles to obstetric practice he regards as a great improvement. He does not, however, advocate the conduct of labor under the carbolic spray, experience having proved that it does not add to the safety of the puerperal woman. On some few minor points we think his teachings are inadequate to the needs of the young practitioner; thus, on the treatment of after-pains, he is absolutely silent. Whether this is because he regards them as purely physiological and not to be interfered with, or because he thinks them too trifling to need treatment, we do not know. In our experience, they have at times proved more violent than real labor pains, and have resisted the effects of opium, chloral, and even chloroform, for which reason we think them of sufficient importance to demand more attention. On the whole, however, the work is one of the best with which we are acquainted, and its value is much enhanced by the large number (226) of elegant illustrations introduced.

A Treatise on the Diseases of Infancy and Childhood. By J. Lewis Smith, M.D., Clinical Professor of Diseases of Children in Bellevue Hospital Medical College, etc. Fifth Edition, thoroughly revised, with illustrations. Philadelphia: Henry C. Lea's Son & Co. 1881. Half Russia, 8vo. pp. 836.

The value in which this work is held by the medical profession is fully shown by the fact that is has now reached its fifth edition, which, like former editions, has been thoroughly revised and considerably enlarged, the matter added being chiefly related to treatment. Therapeutics hold a prominent place in this work, while discussion of theories has been avoided, except as they influence practice. It is divided into three parts, each part being again subdivided into sections and chapters. Part first treats of infancy and childhood (physiologically considered); the care of the mother in pregnancy; mortality of early life, its causes and prevention; weight, growth, lactation; selection of a wet nurse; course of lactation, weaning; the quantity of food required in infancy and childhood; artificial feeding: bathing, clothing, sleep and exercise; accidents and ailments incident to the birth of the infant, and detachment of the cord; ophthalmia neonati; diseases of the umbilicus; umbilical hemorrhage; diagnosis of infantile diseases; therapeutics. Part second treats of constitutional diseases, embracing diathetic diseases, such as rachitis, scrofula, tuberculosis and syphilis; eruptive fevers; non-eruptive contagious diseases; and other general diseases, as, intermittent, remittent, typhoid and cerebro-spinal fevers, rheumatism, and erysipelas. Part third treats of diseases of the various systems and apparatus, as the cerebro-spinal system; the respiratory system; the digestive apparatus; the circulatory system; and the skin. The author's style is pleasant and easy, and his description of diseases and their symptoms clear, while his prognosis and treatment are based on a large personal experience as well as extensive reading.

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MODERN AND ANCIENT SPECIALISM.

The natural tendency of the increase of knowledge is toward the subdivision of studies. Books multiply, teachers increase, facts accumulate, until it becomes impossible for any one head to retain the whole of what is to be learned in any one domain of science. Time was when Pliny wrote a *Historia Naturalis*, which embraced all that was accessible in the realm of physical nature. An ambitious attempt of the same kind was left unfinished by Alexander von Humboldt. None but a vain idiot would make a third effort of the kind.

The rise of specialism is owing directly to the increase of knowledge, and is a proper and necessary result of it. Surgery and medicine have always been regarded as separate fields ever since either could lay claim to being a definite avocation. Both, moreover, have, from very early times, been subdivided into what we now call specialties; but the subdivision was made on very different principles. In ancient Egypt the practice of medicine was confined to a priestly class, who were expected to render their services in most cases without compensation. The members of this caste followed a particular branch by law, and through hereditary custom. The son of an oculist was trained as an oculist, of a bone-setter as a bone-setter, and so on. They were prohibited from practicing outside of their particular branch.

Under the empire in Rome specialism flourished extensively, but it was not regulated by law, and was mere hobbyism, or quackery. Practitioners sought celebrity in the treatment of special forms of disease by the open use of those scandalous tricks which unblushing charlatans have always used to impose upon the multitude. Hence, the severity with which the ancient writers of real merit refer to these quacks; hence, the bitter words which the great satirists of the decadence, Martial and Juvenal, use in describing these ignoble barnacles of the profession of medicine.

There is no necessary occasion in our day for any such language about specialism or specialists. They are now a legitimate and necessary result of the extension of knowledge. Any honest and unprejudiced man will see that it is simply impossible for a surgeon to keep himself fully acquainted with all the departments of general surgery. Take the monographs, journals and volumes which appear on the subject of diseases of the eye alone: what general surgeon can find time to read them? Add to this, that to keep the hand and eye in perfect training for diagnosing and operating in this delicate specialty requires hours of daily application, and who can aspire to be really accomplished in this branch and equally so in the dozen other branches of surgery, all of which demand nearly as much reading and steady application for their perfect knowledge and performance?

What is true in surgery is just as true in medicine proper. Obstetrics and gynecology form one or two specialties. Who can pretend to keep pace with their enormous literature, with the vast number of mechanical and remedial appliances, with the constant differentia-

tions of symptoms, and at the same time be as proficient in the subtleties of auscultation and percussion, in the refined distinctions of insanity, in the extremely difficult branch of neuro-pathology, in the varied forms of diseases peculiar to children, and the like? No one can be. The thing is impossible. He who pretends to be is blinded by his own conceit, and ignorant of the extent of the learning which he claims to possess. The men of most deserved distinction in the profession frankly acknowledge their ignorance. We recollect seeing the eminent Nélaton decline to endeavor to restore an inverted uterus for the reason, as he frankly told his audience, that he had not sufficient knowledge of the strength of the uterine tissues, and would not trust himself to exercise the amount of pressure which the operation might require.

In contrast to this example is the deliberate vilification of specialists, which a class of contemporary writers love to indulge in. Thus, in a recent address, Dr. J. Russell Reynolds, of London, the editor of a large work on practice, chiefly made up by contributions from specialists, thus speaks of them:—

"If you ask me what I mean by specialism, I should say: It is a morbid condition of the mind—of physician or surgeon, as the case may be—which shows itself in his regarding every patient who comes under his care as a sufferer from the particular disease which he has studied; of seeing the symptoms only from the point of view which he has assumed, and made quite clear—to himself—and of treating it in a manner which no one like himself understands; and of treating it to the utmost degree of attention, frequency, and speciality of treatment that his patient's patience will endure."

Now, unless Dr. Reynolds chooses to give point to his remarks by the use of words in designedly unusual, narrow, and ambiguous senses, the above is a libel on his colleagues, and conveys to readers, other than medical, a false and degrading notion of a large body of earnest workers in the profession. We have had too much of this sort of talk in the last year or two. But any amount of it will not and cannot hinder or delay the operation of the great evolutionary law of specialization, which is steadily operating in medicine, as it is in every other department of human knowledge and pursuit.

Notes and Comments.

The Reporter for 1882.

As the year is drawing rapidly to a close we take this opportunity to express the hope that the readers of the Reporter during 1881 have been so well satisfied with its contents that they will not only stand by it during the coming year, but bring it to the attention of their friends, and commend it to their consideration.

Arrangements have been made to add variety and increased merit to its pages during the coming year. The tiresome padding which swells some journals will scrupulously be avoided. Original articles from able writers will be numerous. Especial attention will be paid to hospital reports and clinical lectures, and in every respect the endeavor will be to make the Reporter equal to any medical journal published.

Subscribers will especially oblige us by an early remittance for the continuance of their subscriptions.

A Case of Pneumonia Caused by a Tooth in the Bronchus for Five Days; Recovery.

Dr. T. R. Chambers, of East Orange, N. J., relates in the *Medical Record*, Nov., 19th, 1881, the case of a lady, aged thirty-five, who on August the 19th, had thirteen teeth extracted from the upper jaw at one sitting. Upon discontinuing the administration of gas (nitrous oxide) she fainted. Then she was seized with severe epigastric pain, urgent dyspnœa, cough, nausea, and prostration. It was several hours before she could be removed to her home in Orange.

On the fourth day the dyspnœa, nausea and cough, continued, and in addition there was severe pain in the left axillary line on a level with the nipples, at which place there was a zone of bronchial breathing and voice, and dullness over a space not larger than a silver dollar. In the neighborhood were mucous râles. This consolidation was preceded for two days by pulmonary congestion. Sputa scanty, serous, and mucopurulent, streaked with blood. Temperature, 102° F.; respiration, 40; pulse, 102.

The next day the temperature was 104° F.; respiration, 38; pulse 110.

On the sixth day (Aug. 24) at 9 A.M., there was severe coughing with urgent dyspnœa (the patient says "she thought she would be suffocated"), terminating with a spasm and vomiting, after which relief was obtained. In the matter coughed up and vomited was found a second molar tooth. It was positively certain that it

did not come from either jaw at this time, as both had been carefully examined since the illness begun. Blood was abundant in the sputa, which was muco-purulent in character. Cough very much easier. The whole lower lobe gave bronchial breathing and voice, with dullness. Temperature 104° F.; respiration 44; pulse 124 (two hours after the coughing struggle).

On the seventh day the patient was generally easier. Sputa copious and blood streaked. Temperature 100.5° F.; respiration 32, pulse 100.

On the tenth day prostration was marked. Copious sweats. Blood disappeared from sputa.

September 19th (one month). Patient up and about. Vesicular respiration returned to lung. Râles abundant.

September 25th. Patient well, except weak.

This case should serve as a warning to those extracting teeth to be careful to remove entirely from the mouth any tooth or part of a tooth loosened from its bed in the jaw.

On the Treatment of Poisoning by Aconite.

As a contribution to the study of the toxicology of cardiac depressants, Dr. Edward T. Reichert publishes in the *Medical Times*, Nov. 19, 1881, a summary of forty-one cases of aconite-poisoning, thirteen of whom recovered. The general plan of treatment pursued in a vast majority of cases was the evacuation of the stomach, the administration of stimulants in liberal amounts, and the application of external stimuli.

Opium or its preparations were used in four cases, all of which terminated favorably. In one case the quantity administered is not stated; in one, half grain doses of morphine sulphate were given; in another, three hypodermic injections of fifteen minims each were practiced in a short time; in the fourth case, five and a half drachms of laudanum were administered in four hours, without inducing any symptoms of narcotism.

Digitalis was administered, in connection with other stimulants, in two cases. One died; the one which recovered, and which had taken an ounce of Fleming's tincture, was given three hypodermic injections of twenty minims each within an hour.

Amyl nitrite was used in one case with immediate relief to the spasms, the pulse became stronger, and the deathly pallor of the face disappeared. This substance, as I have already pointed out, is a powerful cardiac stimulant, and promises such good results in this form of poisoning as to deserve a fair and extended trial.

Tincture of nux vomica was used in one case in three-drop doses every twenty minutes, and, as the practitioner stated, with marked benefit to the heart and respiration. Strychnine has also been employed.

The Value of Mercury in the Treatment of Membranous Dysmenorrhœa.

Dr. Robert Ormsby, of New York, reports in the *Medical Record*, November 26th, 1881, five cases of membranous dysmenorrhœa successfully treated with small doses of calomel and opium. Although his discovery of the value of this treatment was quite accidental, he now thinks it strange that mercury has not been recommended before, considering its efficacy in all forms of chronic hyperplasia. His plan is to give from one-half to a grain of calomel with half a grain of extract of opium in pill, twice or thrice daily, beginning about three days before the expected period. In every case the flow came on without pain, and no shreds or traces of membrane were found. In only one case was the treatment repeated the second month, and in all the cure has been permanent. He prefers calomel to any other form of mercury, as it produces its effects rapidly and with but little irritation.

Non-Venereal Syphilis.

Dr. John Dixwell reports, in the Boston *Medical and Surgical Journal*, a case showing the possibility of a perfectly healthy individual becoming infected with constitutional syphilis from using the same drinking glass with a person having constitutional syphilis, even in its later forms.

B., a young American, enlists in the navy at Charlestown, Mass., and is assigned for duty as a servant to one C., whose nose is depressed and whose throat and shin-bone are plainly diseased, —syphilis. After serving a short time, some four weeks or six, B. notices "his own mouth to be sore, with a punched-out, yellowish-looking spot on his lip, followed shortly by other sores on other parts of his mouth and tongue," as he describes it. On application to the surgeon he is told that he has a canker spot, and it is burned with lunar caustic; later the truth is told him, and mercury ordered, and in June last he was discharged, having well marked mucous patches and enlarged glands of whole neck, nasal and laryngeal catarrh.

At the Boston Dispensary, on August 22d, he was seen by Dr. D. and others, and he then presented all of the above-named constitutional signs of syphilis. No marks of former disease, no trace of history of other cause could be ob-

tained other than that B. drank from the same tumbler at the ice-pitcher as did C. often. No pipe was ever used by either, cigarettes alone. The boy was healthy, twenty years old, when he passed the examination, and was enlisted in the service six or eight weeks prior to his presenting the first-seen sore mouth. Since discharge he has been married, and his wife now has some throat trouble and enlarged glands of the neck. (No examination has been obtained of her as yet, however.)

Special Reports.

NO. XXI.—DISEASES OF THE KIDNEYS.

(*Continued from p.* 641.)

BRIGHT'S DISEASE CAUSED BY IODIDE OF POTASH.

In the *American Journal of Medical Sciences*, for July, 1881, Professor I. Edmondson Atkinson, of the University of Maryland, calls attention to the large proportion of cases treated for advanced syphilis that present, after death, evidences of marked kidney disease; and, in this connection, to the fact that syphilitic renal disorder in its characteristic lesion, the gumma, is comparatively rare, while the forms the most frequently encountered are not in themselves syphilitic. In searching for a cause that might produce these changes quite independently of the syphilitic poison, Dr. Atkinson concludes that since iodide of potassium has decided diuretic action, and, as is known to clinical observers, may cause both albumen and casts to appear in the urine, the continuance of this remedy in some cases might lead to the changes observed. He therefore made a series of observations upon seventy cases of late syphilis, of which nineteen presented evidences of renal alterations more or less grave. The relation existing between the administration of iodide in these cases and the appearance of mucous or hyaline casts and albuminuria was quite evident, as in a number the abnormal elements gradually disappeared after the cessation of the remedy.

The condition appeared to be catarrhal in character, and the casts were the results of renal irritation. In no case, however, was extensive parenchymatous inflammation of the kidneys excited; but an obvious syphilitic disorder of the kidney in one case disappeared under the full and systematic use of the iodide. The author's conclusion is, that while the evil effects of the iodide of potassium are small and for the most part transitory, the occurrence of more severe alterations is not impossible—nay, is probable. To these evil effects some individuals are more susceptible than others.

MANAGEMENT OF FLOATING KIDNEY.

This may be either by *fixation*, or by *extirpation*. We have recent advocates of both plans.

Extirpation.—At the last Congress of German Surgeons, Prof. von LANGENBECK showed two individuals in whom he had removed the right kidney. One was a woman, belonging to the laboring class, who had suffered from severe pain, and whose mind had consequently become affected. The other was an apothecary, who had incontinence of the pylorus, which had gradually become developed through the pressure of the kidney and the duodenum. In both cases an incision was made through the abdominal wall, along the outer edge of the rectus muscle, and the outer layer of the mesocolon was divided; the inner layer being left intact, on account of the danger of wounding branches of the mesenteric artery. The secretion of urine was diminished in both cases for a few days after the operation, but afterwards became normal; a little albumen was present, but entirely disappeared. Both patients were relieved of their sufferings.

Fixation.—On the other hand, Dr. E. HALM, in the *Centralbl. f. Chir.*, for 23d July, 1881, describes his method of treating kidney by "nephroraphy," which he maintains is preferable to extirpation, as being an easier operation and more favorable as regards the subsequent health of the patient. At all events, he believes extirpation should not be performed till the more conservative method has been tried. He has performed his operation on two patients who had suffered excessively for two years, having been confined to bed for weeks and months with extreme pain. In neither case could the idea of extirpation be entertained, as in "one case there was strong suspicion that in one kidney, and possibly not in the floating one, there was a calculus, while in the other, both kidneys were floating."

The operation consists in exposing (but not opening) the capsule of the kidney by a vertical incision in the loin, dragging it still enveloped in its capsule into the wound, and stitching it to the muscles and fascia, with six or eight catgut sutures. Under antiseptic dressings, Dr. HALM'S cases healed well in four weeks, and at the end of that time the kidney was found held firmly in place, and the patient perfectly relieved.

After four weeks' active life, however, the kidney was found to have again become slightly movable, so that Dr. HALM would recommend more secure fixation by opening the capsule, and

stitching it as well as the kidney to the more superficial tissues, in order to ensure that, during the erect posture, the weight of the kidney should not displace it again.

ON DIABETIC COMA.

A series of recent studies of the etiology of this condition is given in the London *Medical Record* for August last. We may say in brief that late observers have maintained that the coma arises either from blood poisoning by acetone or else from fat emboli in the capillaries. Prof. QUINCKE, of Kiel, performed twenty experiments on animals in order to determine the physiological effects of acetic ether. The animals died with marked dyspnœa: in only one instance did the urine give any reaction with ferric chloride, and the breath never smelt of acetic ether; glycosuria was sometimes present. Apparently, therefore, the acetic ether was rapidly destroyed in the body. Quincke concludes by stating his belief that the substance in the urine of diabetics which gives the red coloration with ferric chloride is not acetic ether, but a nearly allied body, and that there is ground for believing that the dyspnœa of diabetics is not always identical in its character or always produced by one and the same substance, but like uræmia, it is probably produced by the combined toxic action of many substances formed by abnormal metamorphosis.

On the other hand, the milkiness in the blood of some diabetics has been attributed by Prof. SAUNDERS and Mr. HAMILTON to fatty particles, and these are said to cause emboli. Recent experiments by Dr. DRESCHFELD, however, prove that: 1. all cases of diabetic coma have not milky blood; 2. all cases of milky blood are not fatty blood, as assumed by Saunders and Hamilton; 3. even when fat is present in the blood, fat emboli may be absent or very scarce; no proof has been offered of such extensive capillary emboli as would account for the alarming symptoms under discussion, especially those of nervous origin. It is, therefore, not too much to say that the theory of Saunders and Hamilton has so far received very little support. In fact, we may say the question still remains unanswered.

FROTHING AS A SIGN OF ALBUMEN IN URINE.

Ever since Hippocrates, unusual frothiness has been regarded as a pathological property of urine. The point has been lately examined by Dr. KIRK, in the Glasgow *Medical Journal*. He observes:—

I would say something on the bubble as a test for albumen in urine. It is only in this aspect, I believe, that the albumen bubble in urine has ever been mentioned, and it is generally said that it cannot be relied on as a test, as it may be present in non-albuminous urines. This is quite true; and not only so, but from the foregoing observations it is evident that its absence is no proof of the absence of albumen. Nevertheless, in many cases it is of considerable value as raising a suspicion, to be verified or not by other evidence; and I think it is frequently quite conclusive of itself. Any books I have read on the subject only refer to the froth which may form spontaneously on the surface. But this is not sufficient. Let some air be blown in, and the appearance of the bubble is much more characteristic. In a pale urine, if the albumen be of the frothy sort, there is little difficulty in deciding the question; at all events, I have met with no clear urine giving any similar phenomenon. This might frequently prove useful to the practitioner in country districts. With a small piece of india-rubber tubing, to which a glass mouth-piece may be added as required, or even with the stem of a tobacco pipe, he may generally make pretty certain of the presence of albumen.

RELATION OF SYPHILIS TO KIDNEY DISEASE.

We can do little more than name a contribution of great merit to this inquiry. It is by Prof. E. WAGNER, of Leipzig, in the *Deutsches Archiv für Klin. Med.* Bd. 28. The author gives the results of nine thousand post-mortem examinations, besides a much larger number who recovered. Of the nine thousand, eight showed acute Bright's disease; four, chronic Bright's disease; seven, granular kidney; six, atrophy of the kidney; thirty-five, amyloid degeneration, and three, syphiloma of the kidney.

Reviewing his statistics, it does not appear to us that any direct causal connection between syphilis and kidney diseases has been shown.

FORMATION OF THE HYALINE TUBE CASTS.

Dr. HUGO RIBBERT (*Centralbl. für die Med. Wiss.*, No 17, 1881), is of the opinion that hyaline tube casts are simply due to the coagulation of albumen in the tubules, effected by the acidity of the secretion of the renal epithelium. Egg-albumen, treated with dilute acetic acid and coagulated by heat, appears hyaline under the microscope. Having caused albuminuria in rabbits by temporarily clamping the renal arteries, he injected 20 to 30 grams of a 2½ per cent. solution of acetic acid into the jugular veins, and shortly afterwards extirpated the kidneys and coagulated the albumen in them by plunging them into boiling water (Possier). In two cases he succeeded in finding some of the Malpighian capsules filled with hyaline masses, which dissolved in water and became granular on the addition of alcohol. But in other experiments, having extirpated the kidneys from rabbits similarly made albuminuric, he found that if left in

warm water at about 60° C. (140 Fahr.), in half an hour he obtained no coagulation, or only the familiar granular one; but if he employed fresh urine instead of water, the albumen coagulated in hyaline masses, not soluble in water and not changed by alcohol or by boiling in water.

FILARIA IN THE URINE.

A case of this was recently shown to the Pathological Society, of London, in the person of a young Indian officer. On this occasion the eminent helminthologist, Dr. COBBOLD, stated that the filarial discoveries had not received their due attention in Europe, and were not even alluded to in the recent meeting of the Congress; but that we really are in possession of a large mass of most important facts and valuable conclusions drawn therefrom. There have been five epochs of discovery. The first was that of urinary filariæ in 1866. Then in 1872 Lewis found these parasites in chylurious patients, and others found them in various tissues of the body. The next epoch was Bancroft's discovery, in Australia, of the sexually mature worm, three and a half inches long, in a lymphatic abscess in the arm; six months after it was found by Lewis in India, and Manson in China, and in Brazil. The fourth epoch was Mason's discovery of the intermediary host, the mosquito. The fifth and last epoch is the discovery of filarial periodicity by Manson. It is most extraordinary that the filariæ should be in the blood just when the female mosquito visits its human victim. If a drop of blood be taken from a man, and from a mosquito which has fed on the man, there are fewer found in the man than in the mosquito, because the proboscis of the mosquito is forced into the axis of a capillary, and catches the filariæ wholesale, and extricates them in masses from the human blood. These discoveries are even more important than those of trichinosis. It had been said that lymph scrotum, chyluria, etc., cannot be produced by these filariæ; but the evidence on this point is now so strong that it has been proposed to call this group of diseases "Wucherer's helminthiasis."

INTERSTITIAL NEPHRITIS.

Dr. H. SENATOR, in a recent memoir (*Beiträge zur Pathologie der Nieren und des Harns, Archiv. für Anat. und Phys.*, vol. XLIII), seems to admit the English theory as to kidney diseases.

He admits that interstitial nephritis may exist as a primary malady, although acknowledging that mixed forms and those in way of transition are much more frequent than the English pathologists are willing to admit.

The principal symptom is the abundance of the urinary secretion, which contains but little albumen; it appears certain even that albumen may be absolutely wanting for periods of time. The quantity of urea is not diminished as it is at the period of debut of parenchymatous nephritis.

The cardiac hypertrophy in this malady is universally known and has given rise to numerous discussions. SENATOR admits two forms: concentric and eccentric hypertrophy.

Dilatation of the heart is the appanage of parenchymatous nephritis; simple hypertrophy that of sclerosis of the kidney.

The diagnosis of concentric hypertrophy is extremely difficult. TRAUBE has indicated the following signs: 1. A sensation of abnormal resistance at the apex, which is not displaced: 2. Exaggeration (reinforcement), elevation and metallic timbre of the diastolic sound; 3. Sensation of abnormal resistance in the radial arteries. But these signs are uncertain, as TRAUBE himself was obliged to recognize when he felt himself obliged to diagnose hypertrophy in a case where there was nothing abnormal on auscultation or percussion.

The increase of the first sound, indicated by JOHNSON, POTAIN and other observers, does not seem to be much more valuable.

The vascular alterations had already been signalized by BRIGHT, and that such frequently exist is incontestable. The second part of this memoir is devoted to the study of the relations existing between cardiac hypertrophy and diseases of the kidneys.

KIDNEY DISEASE IN PREGNANCY.

A case of affection of the kidneys during pregnancy is reported by Dr. A. HILLER in the *Zeitschrift für Prak. Med.*, No. 11, 1881; he discusses the cause, finding it to be the pressure of the gravid uterus on the ureter. He recommends, where the symptoms are severe, that artificial labor be brought on.

Dr. A. H. SHINN (*Phil. Med. Times*, p. 747, Aug., 1881), recommends *benzoate of calcium* as an efficient aid in controlling the albuminuria of pregnancy, as well as a valuable remedy in Bright's disease from other sources. Dr. Shinn has produced a very beautiful crystalline salt of the calcium benzoate, consisting of exquisite translucent, colorless, acicular crystals, soluble in about the proportion of twenty grains to the fluid ounce of water; and of this, the dose he has adopted is, in marked cases, ten grains dissolved in a tablespoonful of fluid, consisting of water with enough orange syrup to flavor it, to be administered every two or three hours during the day.

THE IMPORTANCE OF NEPHRITIS IN PREGNANCY.

M. HOFMEYER contributes a very important me-

moir on this subject, (*Zeitsch. für Geburtshülfe und Gynækologie*, Bd. III, p. 259).

The author found that 137 cases of nephritis occurred among the 5000 women delivered at the Maternity of Berlin, from October 1st, 1867 to April 1st, 1878, and that 104 of these cases were complicated with eclampsia.

Of the 33 cases uncomplicated with eclampsia, 11 of the women succumbed, and 20 out of the 35 children were still born, or died soon after birth. The author concludes from these facts that, independently of the eclampsia, nephritis, during pregnancy constitutes in itself an imminent danger to the life of the mother, and also of the child. Nevertheless, such is not the opinion of ROSENSTEIN and BARTELS, who make no mention of a fatal terminstion, and seem rather to dread the passage of the disease from the acute to the chronic form.

In effect, during pregnancy, two forms of nephritis occur: 1st. The acute form, characterized by the usual signs of acute parenchymatous nephritis, and almost always accompanied by eclamptic convulsions. The prognosis is favorable, and the malady lasts a few days, or a few hours.

2d. A chronic form which appears during the closing months of pregnancy, by œdema of the inferior limbs, mounting often to the labia majora, which may become enormously enlarged.

At the same time serous effusions take place in the great cavities, particularly in the abdomen: derangements of vision, bronchial catarrh, and internal dyspnœa supervene.

The quantity of urine is diminished and it contains albumen, sometimes in very large proportions. Of the 137 women cited, 46 presented this form of nephritis, and 31 of these had eclamptic convulsions; 10 of these 31 died, and of the 15 who did not suffer from eclampsia, 8 died. 28 women then survived, but 15 of these presented signs of chronic nephritis when they left the hospital, and but 8 were completely cured when discharged. But 15 of the 46 arrived at term, 30 miscarried and 17 of the children were not viable.

From these facts the author concludes that in this form of nephritis but one treatment is truly efficacious; the induction of premature labor. At what moment should we intervene? At the latest possible period, in the interests of the child. We should be guided by the intensity of the morbid phenomena. The gravity of the symptoms justifies such intervention, even at a period when the child is not viable.

(*To be concluded.*)

CORRESPONDENCE.

Amyl Nitrite in Tinnitus Aurium.

ED. MED. AND SURG. REPORTER:

In your issue of the 26th of November, we have just read a communication from J. Dana Littlefield, M.D., of Somerville, Mass., who speaks of the treatment of tinnitus aurium by the inhalation of nitrite of amyl. He mentions his own case, a symptom of which was an annoying tinnitus aurium. He was "relieved" by the inhalation of a few drops, according to the usually prescribed method, but the Doctor does not say that his tinnitus ceased entirely, although we hope most sincerely that such may be the case. He says, "the noise was modified, the character of the sound became (lighter); then longer intervals of ease, finally a decided sense of inexpressible relief" and remarked that "I felt a positive change in that side of the face." He then goes on to say, "I do not find any authority for this therapeutic use of nitrite of amyl, other than this one *partially* successful case (italics our own).

We would call the Doctor's attention to remarks upon the "therapeutic uses of nitrite of amyl," by Laurence Turnbull, M.D., in his recent work on anæsthetics*, wherein he details the results of his experience in the use of this agent, which he has since almost discarded as worthless. In this connection he refers particularly to an article by Dr. Michel, of Hamburg, "On the Use of the Nitrite of Amyl in Diseases of the Ear," translated by C. J. Blake, M.D., of Boston (*Archives Ophthal. and Otol.*, New York, 1878). Michel reports twenty-five cases of his own, and six more noted by Urbants-Clutsch, of Vienna. *More or less improvement* occurred in nineteen cases; among these were three in which the tinnitus disappeared entirely from one ear, and in another case was diminished. From one to five drops of the remedy were inhaled at a sitting. In all the cases *improved*, the tinnitus was increased during the period of inhalation. Dr. L. Turnbull, says "I have employed this agent in a *large* number of cases; some were benefited, but the majority were not improved, this being in part due, I think, to the impurity of the agent employed." Since the time these remarks were first published (1878), we have employed it in hundreds of cases (my father and myself), and have given the Squibb's nitrite of amyl a fair trial, as have also other aural surgeons throughout the world; and while we recognize its possible value in *ameliorating* certain forms of congestive tinnitus we have but little faith in it as employed in aural therapeutics.

Dr. Littlefield does not say in what way "my learned aural specialist in Boston," as he rather facetiously calls him, did not agree with him or his remedy; but he does say he wants "*facts, facts!*"

We have mentioned some, and could refer him to many more, but we can assure him of *one* fact,

* pp. 132-3. The Advantages and Accidents of Artificial Anæsthesia, etc., by Laurence Turnbull, M.D., Aural Professor to the Jefferson Medical College Hospital Philadelphia. Presley Blakiston, 1879.

and he must go to "aural specialists" to find it out, viz: *that nitrite of amyl will not entirely, but may partially, relieve tinnitus aurium*, which is only a symptom, and not an "affection." Unless the Doctor be entirely relieved of his tinnitus, and that very soon, we can predict its return in full force, and would earnestly recommend his seeking the advice of one of the "Hub's" several learned and skillful aural surgeons.

CHAS. S. TURNBULL, M.D.

Philadelphia, 1702 *Chestnut St.*

Two Cases of Paracentesis of the Pericardium.

ED. MED. AND SURG. REPORTER:—

As the number of instances of pericardial tapping that have been reported is not great, I desire to put on record, two cases that have come to my knowledge, through correspondence with the respective operators. No comments are necessary from me, since I have so often heretofore asserted my belief in the propriety of such procedures, and endeavored so frequently to call attention to the favorable statistics of the operation.

Dr. James D. Trask, of Astoria, New York, gives in a letter, this account of his case. The child, aged six years, had presented symptoms of acute pericarditis for several days, and suffered with paroxysms of extreme dyspnœa. When seen by him, for the first time, there was great exhaustion and but little hope of obtaining a favorable result from operative interference. As a palliative measure, however, he proposed to the parents paracentesis, which they consented to have done. The smallest aspirator needle was introduced at the point where the distention of the pericardium seemed greatest; and three to four ounces of blood-stained serum were withdrawn. The distress was at once relieved, and the child fell into a state of peaceful rest, in such contrast to its previous sufferings, that the parents were well satisfied that the operation had been performed, though the patient continued to sink and died in about twelve hours. No autopsy appears to have been made.

Dr. Trask says: "I have been surprised at the disfavor with which this operation seems to have been regarded. My experience in the case referred to would certainly lead me to perform it, when the heart's action should become plainly embarrassed by the presence of effused fluid."

In 1874, Dr. A. A. Smith, of New York city, had under his care at the Demilt Dispensary, a patient in whom he discovered pleurisy with effusion and pericarditis, with a considerable quantity of fluid in the pericardial sac. After aspirating the pleura, he inserted the needle of a hypodermic syringe into the pericardial cavity, and drew off as much serous fluid as the syringe would contain. He was about to introduce the aspirator needle, when the patient absolutely refused to submit to the operation. His condition, however, began immediately to change, and the improvement was rapid. The absorption of the pericardial effusion progressed with rapidity after the small quantity had been withdrawn with the hypodermic syringe. Dr. Smith has often noticed in connection with pleuritic effusions also, that the withdrawal of a small quantity of fluid by the hypodermic syringe, will cause a rapid absorption to take place, though previously the amount of effusion has been stationary for a long time. He proposes in proper cases of pericardial effusion, to utilize this means of inducing absorption before resorting to aspiration with a larger pump.

Philadelphia. JOHN B. ROBERTS, M.D.

NEWS AND MISCELLANY.

The Healthfulness of Washington City.

A Committee of the Medical Society of the District of Columbia, Dr. Harvey Lindsley Chairman, have presented a report on the above subject, quite interesting to the country at large. It reads:—

The committee believe and report that the statements so generally published are entirely unfounded; that Washington now, as heretofore, is unquestionably as healthy as the most favored cities in this country or Europe; and that instead of deteriorating, it has been much improved in its general sanitary condition during the last few years, as compared with its state ten or fifteen years since. There has been a gradual but decided diminution in the extent and intensity of diseases of a malarial nature, owing, no doubt, to improved drainage, better paved streets, the filling in of low lands and other improvements which are constantly being made by our present efficient government. Malarial diseases are almost wholly confined to those portions of the city immediately bordering on the Potomac river and its tributaries, the Eastern branch and Rock creek.

A large portion of the so-called malarial diseases are not, in our opinion, due to malarial influences, but to other causes, which exist to an equal or greater extent in large cities, such as sewer-gas, the use of unwholesome food, overcrowding and bad ventilation among the poorer classes. The form of malarial diseases most commonly met with is simple intermittent fever, which is the least serious and most curable form. Death from well defined uncomplicated malarial diseases is a rare event in our city. A careful comparison of the death rate of Washington with that of other principal cities of the United States shows conclusively that it does not exceed the average, notwithstanding the very large proportion of colored people, one-third of the whole, whose death rate is generally almost or quite double that of the whites. The proportion of the colored race is greater in Washington than in any city north or west of us, and when the proper reduction of the death-rate on this account is made, it will show a sanitary condition not surpassed anywhere. It is proper to remark here that the records of the Health Department of Washington are believed to be absolutely correct as to the number of deaths annually occurring among us.

The total number of deaths in the District of Columbia for the year ending June 30th, 1881, was 4136, of which number 2206 were white persons and 1931 colored, showing a death-rate of 18.18 per 1000 per annum for the white, 31.27

for the colored, and 22.60 for the whole population. The mean annual death-rate from September 1st, 1874, to June 30th, 1881, was: white 19.27; colored 37.67; total, 25.30.

We believe, too, that the unfavorable reports so industriously circulated of the unhealthy condition of the President's house are equally unfounded. This has been the residence of all the Presidents for eighty one years, and during all that time, with the exception of Presidents Harrison and Taylor, who died after a short illness from acute diseases in no way dependent on climatic influences, the Chief Magistrates, although generally men of advanced age, have enjoyed excellent health and been able to attend to their official duties with scarcely a day's interruption, a most remarkable exemption, and proof enough of itself of the favorable sanitary condition both of the White House and the city. We may add, too, in confirmation of this view, that all the former Presidents spent the whole year here, except a very short visit to their respective homes, the practice of living for a part of the summer in the suburbs having been first adopted by Mr. Buchanan; and when the present anomolous condition of the Potomac flats opposite the city, shall have been remedied, which in their present state are at least, a menace for the future—we know of nothing likely to prevent Washington from being hereafter, as now and heretofore, one of the most healthy, as it is one of the most beautiful, cities in our country.

Reigning Diseases at Paris.

According to the quarterly report of M. Besnier for the second quarter of the present year, the general mortality has slightly exceeded that for the same period of the nine years preceding.

The affections of the respiratory organs with the exception of pulmonary phthisis, which becomes more prevalent from year to year, did not surpass the usual figure for the season.

Diphtheria continued its ravages. During the quarter there there was 212 cases in the hospitals and 553 in the rest of the city. According to the report of M. Netter, from May 1st to June 30th, there occurred in M. Bergeron's service, 52 deaths from diphtheria and 9 cures. The total number of recoveries was then 50 per cent. and somewhat more considerable among the girls.

At the hospital of "Enfants Malades" M. Béclère reports in M. Labric's service 69 cases of diphtheria: in 20 cases the throat alone was affected; in 47 cases there was croup with or without implication of the throat. Of the 20 with simple diphtheria without croup, 12 died. But 7 only of the remaining 47 recovered. Tracheotomy was done in 22 cases with 6 recoveries. The eruptive fevers seemed to follow the course formulated by M. Besnier, vide decline of smallpox in spring, and on the contrary, greater prevalence of measles, scarlatina and erysipelas.

There occurred only 296 deaths from smallpox instead of 356 during the first quarter of the year, and 642 during the second quarter of 1880. 39 cases of measles were admitted into the service of M. Labric with 21 deaths, occasioned mostly by pulmonary complications and diphtheria. In the same service were received 32 cases of scarlatina with 5 deaths from the disease itself; 2 due to intercurrent measles, and 4 to diphtheria. Typhoid fever for the second time, underwent an exacerbation, unknown in the corresponding period of other years; but the number of cases (373) was much lower than for the first quarter (740).

Judaism and Suicide.

Dr. Merselli gives the following statistics in the *Popular Science Monthly*:—

We notice that in the comparisons based on the religion of suicides, Judaism figures, in which the influence of religious bonds is complicated with that of race. This is, perhaps, the only religion bound up in the fate of a single people, whether on account of the exclusiveness of the Mosaic laws, or because no other race is so jealous of its own purity, its own customs, and especially of the faith of its fathers, as the Jewish. In every country where the *chosen* people has been spread, it has always preserved the moral Semitic character, while it has sometimes modified its physical characteristics, as when becoming fair where formerly dark-skinned; the religion of the God of Abraham is the only bond which now unites its scattered members. This strong influence of race obliges one to proceed cautiously in attributing to the Mosaic religion the little tendency of Jews toward suicide. In the most ancient history of Palestine not more than ten suicides are mentioned, and their greatest number belongs to a less pure Jewish period, when, through the Babylonish captivity and through the false prophets, they lost all trace of the ancient law. Already, among the last Jews who had to struggle against the invading Roman power, suicide had become more frequent (Josephus); but, while dispersing themselves among other nations over the face of the earth, the descendants of Abraham have always shown and still show among their moral characteristics an habitual resistance to suicide, although the same cannot be said with regard to madness.

Medical Miseries in Tunis.

The French *Gazette Hebdomadaire* contains an article which has excited intense interest in Paris, on the total breakdown of the Medical and Commissariat Departments of the army in Tunis. "Before we had crossed the frontier," writes a gentleman, "only a third of a ration of bread was issued. On the 28th of April, after an engagement and a march across one of the most difficult countries in the world, the men had been living for two days on biscuit. On the 8th of May the misery of the troops was indescribable. On the 13th there was no distribution of food at all. On the following days a third of a ration of mildewed bread. On the 18th there had been no bread for two days. On the 20th three rations of biscuit and half a ration of bread arrived. No more bread until the 22d. Thus the Commissariat utterly failed in supplying 12,000 men, only forty-five kilometers distant from the Algerian frontier! The water was bad, but there was no wine and no tea."

Another letter gives an even more deplorable account of the condition of the sick. "They are all without sheets, lying in their clothes, close together. There are two basins for eighty typhoid patients, and scarcely any medicines." At Oran those attacked with fever and ague had to lie in blankets vacated by the corpses of typhoid patients, and naturally died. But worse than this, the Minister of War peremptorily forbade the return to France of fever stricken patients who were recovering, so about the tenth or twelfth day of the disease they were distributed, on mule back, to hospitals in the widely scattered towns and villages. "Sometimes the surgeons would refuse to sign the *exeat* of these men, whom they knew to be destined to almost certain death. One protested during three days, and at length received an imperative command to let them go, which he was compelled to do. The patients arrived dying."

This statement is asserted to be capable of abundant proof. The charges of Dr. Lereboullet, himself formerly an Army Surgeon, are based on information received by him direct from the field of action. It seems that in the French service the provision of medical comforts and medicines is in the hands of the Commissariat. If these things be done in a green tree what in a dry? That the Franco-German war should not have taught the French how to manage in this pigmy business in Tunis, is strange indeed.

A New Clinical Telephone.

A foreign exchange informs us that Prof. Sabatucci has contrived a medical hydro-telephone from which he predicts great results in clinical medicine. It is constructed as follows: Two leaden cylinders (five centimeters in diameter and half a centimeter thick) are each closed with two very fine iron laminæ. To the anterior part of each is fitted a wooden mouth piece, like that of a Bell telephone, connected to a caoutchouc tube, through which one may hear at a distance. The posterior part has a very sensitive electro-magnet communicating with a microphone and battery. One tube is applied to each ear. Words or sounds produced before the microphone and heard but faintly, are rendered intense and distinct by introducing liquid into the cylinders. The less dense the liquid the better.

Two sounds may be compared, and their intensity exactly measured, by varying the quantity of the liquids and noting the effects through the tubes.

Miscalled "Health Resorts."

The gross carelessness of sanitation which often characterizes summer hotels at so-called health resorts may be productive of malignant disease, and little consideration should be shown the proprietors or landlords who neglect cleanliness and drainage. We are gratified to see, in the Providence *Journal*, Nov. 19th, a severe scoring, but a palpably just one, given to the Proctor House, Andover, New Hampshire, for its unsanitary condition last summer, which resulted in an outbreak of malignant diphtheria. Let other hotels take warning.

The Virchow Testimonial.

The German medical and scientific fraternity, are contributing toward a fund in celebration of the twenty-fifth year of Virchow's professorate, to form a means for the promotion and furtherance of scientific research, bearing especially on the study of man.

Items.

—Exclusive of the mortality from yellow fever, the average death rate of Memphis for five years previous to 1880 was 34 per 1000 annually. It was supposed that the new system of sewerage would decrease this rate materially, and doubtless it would have produced that desirable effect, had not the people been obliged to drink filthy water since its completion. In reality, however, the death rate has increased alarmingly, running up to nearly 60 per 1000 for several weeks in October.

QUERIES AND REPLIES.

Dr. J. A. R., of Iowa.—We recommend to you the *Alienist and Neurologist*, St. Louis, Mo.

Dr. A. J. K., of Pa.—If you address the manufacturing company directly, they will no doubt send you the formula of the compound.

Dr. S. G. S., of Pa.—We presume the writer of the prescription was an irregular. The general ignorance of that class is so well known as hardly to require illustration.

Dr. T. C. S., of Ind.—A communication of the kind will be received with pleasure at any time.

Theta, M.D.—We have been offered several articles on the Guiteau case, but do not care to publish anything more about it, at present. The haste of writers and journals to prejudge such matters is neither scientific nor creditable.

MARRIAGES.

FULTON—GALBRAITH.—In this city, on Thanksgiving evening, 24th ult., at the residence of the bride's parents, by Rev. Dr. W. T. Eva, assisted by Rev. Dr. W. Fulton, father of the bridegroom, Alexander Fulton, M.D., and Lizzie J., daughter of James Galbraith, Esq.

KRISE—BEETEM.—On Tuesday evening, Oct. 4th, 1881, at the Lutheran Church, by the Rev. Chas. S. Albert, assisted by the Rev. A. H. Kramer, D.D., of the Reformed Church, C. Worth Krise, M.D. and Emma F. Beetem, both of Carlisle, Pa.

McNEEL—McDONALD.—In Kilbourn City, Wis., November 16th, by Rev. J. V. R. Hughes, Dr. Frank H. McNeel, of Merrill, Wis., and Emma A. McDonald, of Kilbourn City.

NEWCOMBE—MASON.—On Thursday, October 25th, 1881, at the residence of the bride's parents, by the Rev. Jonathan Daily, George Frederick Newcombe, M.D., of the City of New York, and Mary C., daughter of Edwin R. Mason, Esq., of Paterson, New Jersey.

PHILLIPS—PRESTON.—At the residence of bride's parents, North Gage, N. Y., on Wednesday, Nov. 2d, 1881, by the Rev. Henry M. Sanders, Yonkers, N. Y., R. Oliver Phillips, M.D., of Yonkers, and Miss Anna C. Preston, of the former place.

PISOR—JORDAN.—At the home of the bride, October 4th, 1881, by Rev. A. M. Reed, Mr. O. P. Pisor, M.D., of Butler Co., Pa., and Miss Maggie Jordan, of Lawrence Co., Pa.

PRICE—HAINES.—On November 8th, 1881, at the residence of the bride's parents, by the Rev. William Neilson McVickar, Ferris T. Price, M.D., and Mary P., daughter of Franklin D. Haines, of this city.